

## THE RESULTS OF TREATMENT IN CERTAIN TYPES OF INCONTINENCE\*

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Few patients present a greater challenge to the urologist than those who are continuously, or even intermittently, wet. My interest in the subject, first aroused by a paper by Terence Millin in 1939,<sup>1</sup> has been constantly stimulated by the frequent visits to my consulting rooms of a patient on whom I have performed several operations and whom I have still only partially cured. This man has forcibly brought home to me the shifts and social evasions forced upon these unfortunate individuals, the influence of their disability upon their chances of securing employment, and the state of despair to which constant wetness, excoriated skin, and a constant urinary odour reduce them. Incontinence bags, a misery to the male, are almost impossible to adjust with success in the female. A penile clamp, at first hailed as a boon, ultimately becomes a burden through inaccurate adjustment of pressure, or through skin ulceration; and leaks occur past the clamp. Training, exercises, dilatation, and electrotherapy will relieve only the minor degrees of incontinence.

This paper is concerned with those cases of true incontinence amenable to surgical repair, and is an attempt to assess the results of treatment in patients seen and treated personally over a 15-year period.

I am excluding from this small series patients with traumatic paraplegia and patients with incontinence resulting from other neurological causes, as well as patients with fistulae which sometimes follow suprapubic operations. The latter group of patients are usually successfully treated according to the ordinary principles of urological surgery, namely, relief of bladder-neck obstruction and, if necessary, dissection and closure of the fistula.

The types selected therefore fall into 2 groups:

## A. Those associated with the trauma of childbirth or surgery.

1. Stress incontinence in females.
2. Uretero-vaginal fistulae following pelvic surgery.
3. Vesico-vaginal fistulae.
4. Incontinence following operations on the prostate.

## B. Congenital causes.

1. Ectopia vesicae.
2. Epispadias.
3. Aberrant ureteric orifice.

This is admittedly a somewhat restricted and selective list and does not include all cases of incontinence.

## STRESS INCONTINENCE IN FEMALES

During the last decade I have operated on 11 patients for this condition. In every case the Millin I operation<sup>2</sup> has been performed, and a cure has resulted in every case. The complication rate has been high, and the difficulty of the operation has in some cases been considerable. It has been difficult to make the tunnel for the sling without some trauma to the bladder or urethra. I have also not found it easy to close the fascial gap in fat patients. These difficulties have been, I think, from inexperience, and I have not had much trouble with the last half-dozen cases.

Several points need emphasis. A careful history should be taken and a thorough clinical examination made. A routine intravenous urogram should include a cystogram, both in the supine and in the erect position. There will usually be some descent of the bladder, but I have not found this a determining factor when deciding whether to operate or not. Urethrography, similarly, is interesting, but not conclusive.

It is at cystoscopy, which should be routine (to exclude urge incontinence from cystitis and other bladder lesions), that the clinical diagnosis is made. The cystoscopy, performed with gentleness and persuasiveness, requires no anaesthetic, and at the conclusion of the examination the patient is requested (a) to strain and (b) to cough, before the bladder has been emptied.

A cystocele will be evident on straining, and in most cases of stress incontinence coughing will be accompanied by a forcible jet of fluid from the urethra.

If two fingers are now placed, one on either side of the urethra, well up on the anterior vaginal wall, as advocated by Bonney,<sup>3</sup> the leak will be controlled. If no leak is detected while the patient is in the cystoscopy position, it should be looked for with the patient standing.

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TABLE I. INCIDENCE OF COMPLICATIONS

Case	Age	Spurt	Previous operations				Signs of injury to bladder or urethra				Result
1	38	++	1 colporrhaphy	..	..	..	Blood drained from bladder	..	..	..	Cure
2	38	++	1 colporrhaphy	..	..	..	Urine leaked from wound. Sloughs seen on cystoscopy	..	..	..	Cure
3	38	++	1 colporrhaphy	..	..	..	Postoperative urinary leak from wound. Sloughs seen near bladder neck	..	..	..	
4	51	++	Gynaecologist refused	..	..	..	Blood in urine at end of operation	..	..	..	Cure
5	15	++	Double ureters. Previous left nephrectomy	..	..	..	Bladder accidentally opened. Closed	..	..	..	Cure
6	51	Only on standing	1 colporrhaphy	..	..	..	Nil	..	..	..	Cure
7	54	++	Colporrhaphy refused by gynaecologist	..	..	..	Nil. Transient retention later reduced to R.U. 10ml.	..	..	..	Cure
8	30	++	2 colporrhaphies	..	..	..	Nil	..	..	..	Cure
9	46	++	1 colporrhaphy	..	..	..	Cystitis. Cured with furadantin	..	..	..	Cure
10	55	+++	Left nephrectomy	..	..	..	Nil	..	..	..	Cure
11	48	+	2 colporrhaphies Marshall-Marchetti	..	..	..	Nil	..	..	..	Cure

The smallness of this series is partly explained by the fact that most of these patients are seen by gynaecologists, and that all patients seen by me are referred to a gynaecologist before any sling operation is undertaken. A substantial proportion of patients seen by me have been cured by a vaginal procedure by a gynaecologist, and it is only to the failures that the sling operation has been applied.

Encouraged by these results, I have not been tempted to use procedures such as the Aldridge,<sup>4</sup> Millin II,<sup>5</sup> or Marshall, Marchetti and Kranz<sup>6</sup> operations. Kennedy<sup>7</sup> describes a series of 34 patients treated by the Millin I sling with a cure rate of 87.5%. The two deaths in his series were caused by pulmonary embolism and liver necrosis.

The incidence of complications in my short series is summarized in Table I. There were no deaths.

It will be noted that one of these operations was performed on a girl of 15 (case 5) who had previously had a nephrectomy for ectopic ureter. She must be classed as a case of congenital incontinence. An indwelling catheter and a packed vagina are of great assistance in performing the Millin sling operation, and in this girl's case I was unable to separate the urethra or to control bleeding until I had ruptured the hymen and packed the vagina.

Case 10 had a left ureter opening into her urethra. I thought that a nephrectomy would cure her, but she remained incontinent after this operation. Since the sling operation she has abandoned a vaginal tampon that she was previously obliged to wear. The gynaecologist who referred her to me had declined to consider a vaginal operation.

The Millin I sling has to some extent fallen into disrepute. I do not think that this is justified. As Millin<sup>5</sup> points out, it is a difficult procedure for those not

accustomed to working in the retropubic space. Horrific tales are told of fascial slings working their way through the urethra or bladder and hanging loose in the urinary tract. I believe that attention to 2 details will prevent this disaster:

1. The urethra should be freed over a limited area by working away from it, with curved forceps, onto a tightly packed vagina. A catheter in the urethra is grasped between finger and thumb, and dissection proceeds behind it by opening and closing a Moynihan's forceps onto the vagina and so creating the desired tunnel.

2. No attempt should be made to have a tight sling. This is quite unnecessary. I adjust it with great care, and no tension.

#### URETERO-VAGINAL AND URETERO-ABDOMINAL FISTULAE

My series includes 18 patients with ureteric injury caused by pelvic surgery. Of these, 15 had fistulae and are included in this series. The question of ureteric injuries in gynaecology has been admirably dealt with in a recent paper by Jacobson,<sup>8</sup> and the simple technique of uretero-neocystostomy advocated by him has been used. I leave a splinting polythene tube in for 16 days, reinforce the anastomosis by stitches outside the bladder, fixing the bladder to the outer coat of the ureter, and drain the bladder suprapubically.

Uretero-neocystostomy succeeded in 9 patients. One of these subsequently developed a staghorn calculus and 2 others developed infection which yielded to treatment. In 1 anastomosis failed, and 1 could not be done owing to fibrosis. Three patients were treated by nephrectomy, with cure of the fistula, and in 1 the ureter was exposed, incised, and splinted with a good result. The patient whose ureters could not be liberated (owing to fibrosis), sub-

TABLE II. URETERIC INJURIES

Case	Age	Causative trauma	Treatment	Result	Complications
1	47	Hysterectomy	L. uretero-neo-cystostomy	Cure. Normal efflux	Nil
2	50	Hysterectomy	R. uretero-neo-cystostomy	Cure	Nil
3	50	Ca. cervix. Wertheim	L. uretero-neo-cystostomy	Cure	Staghorn calculus
4	77	Abdomino-perineal resection of rectum	R. uretero-neo-cystostomy	Cure	Nil
5	46	Ca. cervix. Radium. Wertheim.	L. uretero-neo-cystostomy	Failure	See vesico-vaginal fistula
6	?	Ca. cervix. Wertheim. Bilateral uretero-vaginal fistula. Both u. blocked 4 cm.	Exploration. Widespread fibrosis. Could not identify ureters	Failure	Died of widespread secondary deposits
7	22	Caesarian section and subtotal hysterectomy, 3rd child	Ureter exposed, freed, and opened. Splinted	Cure	
8	?	Hysterectomy. Both u. injured. R. nephrostomy	L.u. cath. Pyelogram normal (recovered). R. subcapsular nephrectomy	Cure	
9	55	Hysterectomy	L. uretero-neo-cystostomy	Cure	Infection cured by furadantin
10	53	Hysterectomy (fibroids)	L. uretero-neo-cystostomy	Cure. Normal efflux	Proteus infection
11	?	Hysterectomy 4 years ago. R. no function. L. normal. R. cath. stuck 2 cm.	R. nephrectomy	Cure	
12	36	Hysterectomy (fibroids)	L. uretero-neo-cystostomy	Cure. IVP perfect	
13	53	Hysterectomy. Uretero-abdominal F.	L. uretero-neo-cystostomy	Cure. IVP perfect	
14	36	Hysterectomy. Division of ureter and repair over cath. 3 weeks later 1 recovered cath. from bladder. Leak. Peritonitis. Fistula (10 cm.)	Subcapsular L. nephrectomy	Cure	
15	—	Hysterectomy. Left uretero-vaginal fistula. Fistula healed. Left hydronephrosis, dye goes through stricture	L. uretero-neo-cystostomy	Cure	

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sequently died of widespread metastases. The anastomosis which failed had been performed on a patient who had had a Wertheim hysterectomy after radium treatment and later received X-ray treatment. It is possible that the irradiation contributed to the failure of the tissues to unite.<sup>9</sup>

The results of treatment here have, on the whole, been very satisfactory. The new ureteric orifice has been observed to efflux normally in 3 of the patients and in 2 a cystogram has failed to reveal reflux. These investigations have not been carried out on all the patients. The whole series of ureteric injuries will be reported in detail in a later paper, with the addition of further cases.

Details of these patients are given in Table II.

#### VESICO-VAGINAL FISTULAE

I saw 25 patients with vesico-vaginal fistula. Of these, 6 had had no previous attempts at cure, and of the six 5 were cured, 3 by an ordinary transvesical procedure, and 1 at a second attempt by myself, using a transperitoneal bladder-splitting technique (Morgan,<sup>10</sup> Dorsey<sup>11</sup>), and 1 by a vaginal repair with added cystostomy drainage.

The remainder had all had one or more gynaecological attempts at vaginal closure, two of the series having had 5 operations, one 3 operations, four 2 operations, and the remainder 1 previous operation (Table III).

In all, only 9 of the 25 were completely cured, and 3 were partially cured, expressing themselves as satisfied and refusing further operation. One of these patients had had an unsuccessful vaginal attempt. This was followed by a pyonephrosis for which I did a nephrectomy. I then closed the fistula by a transvesical operation after removing a stone. On the 17th day severe secondary haemorrhage, necessitating repeated transfusions, led to my asking Prof. J. T. Louw to operate from below and ligate the cervical branch of the uterine artery. He did this with vaginal closure of the fistula, and she now has a tiny hole which leaks only at night. The other two partial cures had had their urethrae completely destroyed and a wide fistula plastered on the back of the pubis. These were closed and an attempt made to fashion a new urethra by tunnelling and pulling down flaps to the distal  $\frac{1}{2}$  inches remaining of the urethra. Both of these patients leak a little through the urethra.

In all, of the 9 patients cured, 5 were approached transvesically, 2 by transperitoneal bladder-splitting operations, and 2 by vaginal closure supplemented by cystostomy. Ten patients were subjected to uretero-sigmoidostomy, with one death from sepsis and peritonitis.

In one patient Prof. J. H. Louw made an ileal conduit and I implanted the ureters into this. There was some

TABLE III. RECORD OF 25 CASES OF VESICO-VAGINAL FISTULAE

Case	Age	Cause	Previous operations	Treatment	Result
1	40	Hysterectomy	No previous attempt	Transvesical	Cure
2	18	Childbirth	Gross sepsis. Weak. Very large fistula	Uretero-sigmoidostomy	Death
3	19	Childbirth	1 gynae. failure	Uretero-sigmoidostomy	Recovery good pyelograms
4	28	Childbirth	2 gynae. failures	Uretero-sigmoidostomy	Recovery. Blood urea 68
5	?	Childbirth	Not stated	Uretero-sigmoidostomy	Blood urea 156. Seems well
6	29	Childbirth	Bladder vault is vaginal vault	Uretero-sigmoidostomy	Blood urea 140 in 1 month, 60 in 3 months
7	28	Childbirth	Urethra and trigone gone	Uretero-sigmoidostomy	Recovery
8	20	Childbirth	Repeated failures. L. inguinal colostomy	Ileal bladder with J. H. Louw	Recovery
9	22	Childbirth	J. T. Louw—vagina. L. nephrectomy for pyonephrosis	Removed stone. Repair from above. Severe haemorrhage (secondary). J. T. Louw from below	Partial cure (tiny hole). Leaks at night
10	22	Childbirth	5 gynae. operations	Bladder-splitting	Cure
11	28	Caesarean section	2 gynae. failures	Transvesical	Cure
12	51	Surgical	2 gynae. failures	Vaginal	Failure
13	23	Childbirth	Colostomy and alleged uretero-sigmoidostomy elsewhere. Blocked urethra	Transvesical	Leaks through urethra. Lost sight of
14	24	Childbirth	5 unsuccessful gynae. operations	(1) Vaginal + cystostomy (2) Uretero-sigmoidostomy	(1) Failed (2) Satisfactory
15	20	Childbirth	Vaginal and suprapubic attempts failed. Fistula under pubis	Uretero-sigmoidostomy	Satisfactory
16	25	Childbirth	2 gynae. operations	(1) Vaginal and cystostomy (2) Bladder split (3) Uretero-sigmoidostomy	(1) Failed (2) Failed (3) Satisfactory
17	46	Hysterectomy	1 gynae. attempt	Transvesical	Cure
18	30	Caesarean hysterectomy	Nil	Transvesical	Cure
19	32	Childbirth	Nil	Transvesical	Cure
20	40	Childbirth	Nil	Vaginal	Cure
21	45	Childbirth 13 yrs. before	3 previous gynae. attempts	Vaginal	Cure
22	68	1 Hysterectomy 2 Abdominoperineal	Nil	(1) Failure-fibrosis (2) Fistula dissect off sacrum and closed	Cure (transperitoneal)
23	30	Childbirth	Urethra destroyed and closed fistula on pubis	Closure of fistula and tunnelling of new urethra	Closed, but poor control
24	20	Childbirth	Urethra destroyed. 2 previous attempts	My attempt failed, uretero-sigmoidostomy	Satisfactory
25	21	Childbirth	Decided to attempt ileal bladder. Large suppurating cyst		Failed

leakage, but the patient recovered. One vaginal attempt was a complete failure and I did not see the patient again.

The record therefore is:

Cases 25.

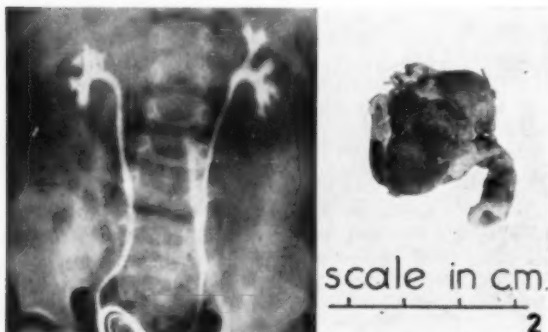
Cures 9; transvesical 5, bladder-splitting 2, and vaginal plus cystostomy 2.

Partial cures 3.

Failures, lost sight of 2.

Ileal conduit 1.

Uretero-sigmoidostomy 10.



Figs. 1 and 2. See text.

Of the patients subjected to uretero-sigmoidostomy, 1 died, 3 gave early evidence of hydronephrosis, but seemed well clinically, and 5 were apparently satisfactory. Follow-up in most of these women has been impossible, since they return to their tribal areas and are lost sight of.

I am sure that uretero-sigmoidostomy must be replaced by one of the techniques which avoid infection and hyperchloraemic acidosis, but I have been conditioned in the past by the fact that any efficient sphincter is preferable to an apparatus which these rather primitive women have to wear and manage.

#### ECTOPIC URETERS

Two patients with constant wetness from an ectopic vaginal ureter have been dealt with by partial nephrectomy. The first patient (Figs. 1 and 2) had been treated on psychological lines for enuresis for some months. The truncated right pyelogram with the upper calyces missing is characteristic. I tried hard to find and catheterize a vaginal opening, but failed. The small upper portion of the kidney, drained by the ectopic ureter, was removed practically bloodlessly. In the second patient (Figs. 3, 4 and 5), the paediatrician (Dr. P. V. Suckling) who referred the patient to me, had made the diagnosis by noting the



Fig. 3. Pre-operative pyelogram.



Fig. 4. Postoperative pyelogram.

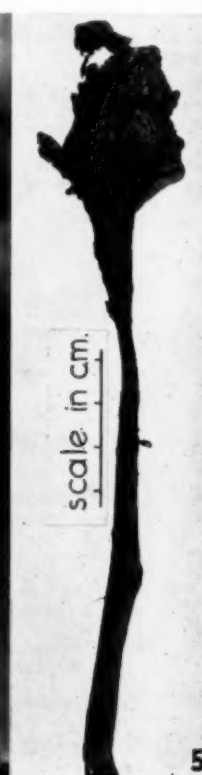


Fig. 5. See text.

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characteristic syndrome of constant wetness associated with normal regular micturition. In this case evidence of the upper segment could be seen, but I again failed to find or catheterize the ectopic opening.

Partial nephrectomy was again easy and practically bloodless, and I removed most of the dilated ureter.

#### MALE INCONTINENCE

Temporary incontinence after removal of a very big prostate by the retropubic method is not uncommon, possibly because the catheter is removed so early. I have not found that it persists.

Of the 4 patients with male incontinence I have treated, 1 followed dissection of a fibrous prostate elsewhere, 1 appeared to be caused by widespread excavations following prostatic abscesses, and 1 by transurethral resection of a carcinoma. I used Millin's perineal urethroplasty with ribbon catgut with success in the first 2, and failure in the third.

My fourth attempt at urethroplasty was in the patient mentioned at the beginning of this paper. He had had a transurethral resection elsewhere which led to moderate incontinence. At cystoscopy a projecting nubbins of prostatic tissue was seen, well above the verumontanum. I resected this and his incontinence became complete. A colleague to whom I referred the patient found another projection and increased his incontinence still further. I then did a ribbon catgut encirclement of the bulb, with complete success for 6 months. The patient then had left renal pain and a non-functioning kidney. After cystoscopy and retrograde pyelography he again became completely incontinent. I repeated the procedure with fascia lata, without success. He then wore a Cunningham clamp for some years, and finally I performed a sling operation of the type suggested by Uhle and Bradley,<sup>12</sup> and he has now

dispensed with the clamp and can control his stream, but is occasionally wet.

#### ECTOPIA VESICAE

Two patients have been treated by uretero-sigmoidostomy, with 1 death. The infants were both under 2 years. In the surviving patient I removed the bladder mucosa and closed the defect 5 years later by the method suggested by Spence.<sup>13</sup> One of the kidneys was moderately hydronephrotic 5 years after the uretero-sigmoidostomy.

#### EPISPADIAS

I have attempted to cure the incontinence in 2 patients with male epispadias, and failed in both of them. Symphysiotomy was performed and an endeavour made to bring together what Sweetser<sup>14</sup> calls the 'posterior transverse intersymphyseal band'.

#### SUMMARY

In this paper an attempt is made to assess the results of treatment in patients (seen and treated personally over a period of 15 years) who were suffering from true incontinence amenable to surgical repair.

I wish to thank Mr. G. McManus for the excellent photographs.

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## NEUROLOGICAL MANIFESTATIONS OF INFECTIOUS HEPATITIS

### A CASE REPORT

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Infectious hepatitis is today regarded as being a fairly mild disease with a good prognosis. It must, however, be remembered that there can be fatalities—2% in a series of 1,200 cases reported by Stokes and Miller<sup>1</sup>—and that complications do occur.

Most of us are familiar with the neurological manifestations of hepatic precoma, or with portal systemic encephalopathy; it is far less common, however, to find neurological changes in cases of acute infectious hepatitis, and a further case is reported here.

#### CASE REPORT

B.G., a 19-year-old telephone technician, was admitted to this hospital on 9 October 1960, with a 2-day history of upper abdominal pain and nausea. For about 5 days he had noticed that his urine had been dark in colour, and his stools somewhat lighter than usual. On examination he was jaundiced, and the liver was barely palpable and tender. There was no lymphatic-gland enlargement.

#### Laboratory Investigations (10 October 1960)

Urine: Urobilinogen, present (trace); urobilin, present (trace); bilirubin, present (+++); and bile acid, present (++).

Blood: Haemoglobin, 17.1 G. per 100 ml.; white-cell count,

4,500 per c.mm.; neutrophils, 61%; monocytes, 7%; lymphocytes, 32%; and erythrocyte sedimentation rate, 18 mm. in first hour.

Liver-function tests: Total protein, 7.3 G. per 100 ml.; albumin, 3.6 G. per 100 ml.; globulin, 3.7 G. per 100 ml.; bilirubin (direct), 4.5 mg. per 100 ml.; bilirubin (total), 5.8 mg. per 100 ml.; alkaline phosphatase, 18 King-Armstrong units; thymol turbidity, 8.8 units; thymol flocculation, positive (+++); Takata-Ara reaction, positive (+); and serum G-O transaminase, 475 units per 100 ml.

#### Course of Illness

On 12 October the patient started complaining of cramps in the abdomen and also spasm of the neck. These spasms were intensely painful and accompanied by profuse sweating. During the course of the day he had a number of attacks, as follows: there was a period of hyperventilation followed by a cry, the head turned to the right, right arm and leg rigid, pupils widely dilated, patient conscious throughout and responding to questioning. This attack lasted about 30 seconds.

During this attack blood was taken for chemical studies, with the following results: Blood sugar, 146 mg. per 100 ml.; blood urea, 29 mg. per 100 ml.; chlorides, 106 mEq. per litre; sodium, 137 mEq. per litre; potassium, 4.9 mEq. per litre; and calcium, 4.9 mEq. per litre. A lumbar puncture was performed. The pressure was 140 mm. H<sub>2</sub>O. The cerebrospinal-fluid (CSF) chemistry was normal.

The patient was heavily sedated, mainly with paraldehyde,

but despite the liver disease it was found necessary to add barbiturates as well. He remained reasonably free of attacks, but on 13 October started having similar attacks again; this time, however, they were left-sided. These attacks were once again controlled by sedation, but, since his general condition appeared poor, it was decided to add cortisone, 25 mg. 6-hourly, to the regimen of high carbohydrate diet and oral neomycin. Neomycin was given to 'sterilize the bowel', since there was the suggestion of hepatic precoma.

On 15 October he developed a fine, almost Parkinsonian tremor of both hands, excessive salivation and mask-like facies. There was also a ptosis of the right eye; pupillary reactions were normal. This stage was the worst reached by the patient, and from this time on there was a rapid improvement in his condition.

The dose of cortisone was reduced and, since he was so well, he was allowed to go home on 27 October, with the injunction not to exert himself and to return for follow-up studies.

He was last seen on 5 November, when he was feeling very well. On this date his liver-function tests were as follows: Total protein, 8.3 G. per 100 ml.; albumin, 4.8 G. per 100 ml.; globulin, 3.5 G. per 100 ml.; bilirubin (direct), 0.4 mg. per 100 ml.; bilirubin (total), 0.8 mg. per 100 ml.; alkaline phosphatase, 8.8 King-Armstrong units; thymol turbidity, 4.9 units; thymol flocculation, negative; and Takata-Ara reaction, negative.

Other investigations of interest which were performed were: Paul-Bunnell test, negative; leptospiral agglutinations, negative; and viral studies of blood and CSF, negative. There was no increase in urinary amino acids.

#### DISCUSSION

We were faced in this case with a triple problem: (1) Did this patient show neurological manifestations as an unusual presentation of infectious hepatitis? (2) Was this infectious hepatitis with coincident encephalitis? (3) Was this epilepsy precipitated by infectious hepatitis?

In their series of 1,200 cases, Stokes and Miller<sup>1</sup> reported involuntary movements in 6 patients, ankle clonus was present in 8, and facial palsy, external rectus palsy and external strabismus were seen in single patients. McMath<sup>2</sup> stated that neurological complications of infective hepatitis were rare. The incidence varied from 2 of 170 cases in one series, to 32 of 151 cases in another.

Himsworth<sup>3</sup> described limbs with a peculiar clasp-knife rigidity not unlike that in Parkinson's disease; occasionally fine tremors and spasmodic movements are present, rarely do convulsive attacks occur. There may also be drenching sweats, and both these and the convulsive attacks may sometimes be caused by hypoglycaemia consequent on impairment of the glycogenic functions of the liver.

Stokes, Owen and Holmes<sup>4</sup> classified the neurological findings in infectious hepatitis into 4 main groups:

1. Coma, convulsions, delirium, and incontinence.

2. Generalized or localized muscular rigidity with increased tendon jerks, with or without a Babinski sign, choreiform movements, and in one case a Parkinsonian tremor.

3. Large focal haemorrhages into the nervous system, which may or may not produce focal signs.

4. Peripheral neuritis.

The same authors make the following suggestions to account for the occurrence of the pyramidal and striatal signs: (a) Mutation of the infectious hepatitis virus giving it a neurotropic character, (b) specific attack on basal ganglia and pyramidal tracts by products of autolysed liver cells, and (c) toxins from the bowel passing through an incompetent liver.

In the case reported here the signs were a mixture of pyramidal and basal-ganglion involvement. The cerebrospinal-fluid findings were normal, and this bears out the finding of Stokes, Owen and Holmes,<sup>4</sup> although Sherlock<sup>5</sup> stated that 'an increase in protein and lymphocytes of CSF has led to the suggestion that the hepatitis virus may have neurotropic properties'.

The drenching sweats which occurred in this patient have already been referred to, but the normal blood sugar does not bear out the contention of hypoglycaemia.

Despite the apparent severity of this patient's condition and the initial alarm occasioned by his bizarre symptomatology, his response was good. Before the steroid era, Lescher<sup>6</sup> had stated that the general prognosis of nervous complications seemed to be good, even though the patient may be profoundly ill.<sup>7</sup> Steroid therapy in this case may, however, have accelerated the resolution of the disease as shown by the rapid return to normality of liver-function tests, since it is known that cortisone and ACTH cause a rapid fall and a lower peak in the serum-bilirubin concentration, and more rapid reversion to normal of the thymol and cephalin-cholesterol tests.<sup>8</sup>

In view of the normality of the CSF findings, and the normal viral, leptospiral and rickettsial studies, and also the virtually spontaneous response and complete resolution of the condition, it seems that this was a neurological manifestation of infectious hepatitis rather than a concomitant encephalitic process.

#### SUMMARY

A case of infectious hepatitis with neurological manifestations is described. Recovery was complete. The literature on the subject is briefly reviewed.

I thank Dr. H. Rempel, Superintendent of the South Rand Hospital, for permission to publish.

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#### DIE SUID-AFRIKAANSE HARTVERENIGING, TAK STELLENBOSCH

Die volgende vergadering van die Suid-Afrikaanse Hartvereniging, Tak Stellenbosch vind plaas op Donderdag 24 Augustus om 8.15 nm. in die groot Voorlesingsaal, Karl

Bremer-hospitaal, Bellville. As spreker tree op dr. P. V. Suckling, oor die onderwerp 'Coxsackie-miokarditis in die pasgeborene'.

Een van die beoogde doeleinden van dees kon doeleinden worden bereikt.

'n Pe is die grond van verskynsel, dusend gedoemkeling.

Baie uit ons ens., te gastro-kindervan die hierdie in die kinders hoog is die ste ons op gebreksvoedsel.

Onla beeld, sterf. die ver en ond

In 'n agtergrond wat aan dat hi skappe groei bevind Kleur met ku oorver onderver uit ha verban huising soos v ontwik

In 'n waarin studie in die

# ONDERVOEDING BY KINDERS

Een van die mees verontrustende probleemgesteldhede in die beoefening van die moderne medisyne is die feit dat daar so 'n groot aantal toestande is waaraan ons baie sou kon doen as die omstandighede gunstig was, maar waaraan ons nou nie veel kan doen nie omdat die maatskaplike agtergrond van dié probleme soos 'n versperrende berg voor ons lê.

'n Pertinente voorbeeld van hierdie toestand van sake is die probleem van ondervoeding by kinders. Op die grond van verslae wat ál meer dikwels in die mediese pers verskyn, is dit duidelik dat daar in Suid-Afrika vandag duisende en tienduysende babas en klein kindertjies is wat gedoem is tot gebrekkige liggaamlike en geestelike ontwikkeling omdat hulle nie genoeg kos kry nie.

Baie kinders sterf aan toestande wat in die eerste plaas uit ondervoeding spruit, bv. uittering, kwashiorkor, rachitis, ens., terwyl ander doodgaan van siektes soos tuberkulose, gastro-enteritis, en pneumonie — sieketoestande waaraan kinders nie behoort te sterf nie, maar wat tog die oorsaak van die dood is by duisende, veral nie-Blanke kinders. In hierdie verband is dit van belang om daarop te let dat in die ouderdomsgroep 1-4, die sterftesyfer by Kleurling-kindens vyftien keer, en by Bantoekinders dertig keer so hoog is as by Blanke kinders. 'n Baie groot proporsie van die sterftes ontstaan op die basis van die toestande wat ons opgenoem het, en die onderliggende faktor skyn 'n gebrektoestand te wees — onvoldoende voedsel, veral voedsel wat die nodige proteïne bevat.

Onlangs het Robertson en haar medewerkers,<sup>1</sup> byvoorbeeld, aangetoon hoe baie kinders daar aan gastro-enteritis sterf. Hulle het ook aangetoon in hoe 'n groot mate hierdie verlies aan kinderlewens die gevolg is van wanvoeding en ondervoeding.

In 'n ander baie insiggewende studie het Moodie<sup>2</sup> die agtergrond bestudeer van 150 gehospitaliseerde kinders wat aan kwashiorkor gely het. Onder andere het sy gevind dat hierdie siekte veral voorkom onder kindergemeenskappe waar daar ook wydverspreide tekens van vertraagde groei en onderontwikkeling is. 'n Ander belangwekkende bevinding wat sy aanteken en bespreek, is die neiging by Kleurling- en Bantoemoeders om relatief vroeg te begin met kunsmatige voeding, 'n gebruik wat die gevare van oorverdunding van die kunsmatige voedsel en gevolglike ondervoeding, infeksie, ens. inhou. Ook blyk dit duidelik uit haar werk dat voedseltekorte by kinders in 'n baie noue verband staan met armoede, onkunde, infeksie, swak behuising, en maatskaplike disorganisasie in die algemeene — soos veral gesien by ongeskoolde arbeiders in 'n vinnig-ontwikkelende nywerheidsgebied.

In 'n onlangse *Tydskrif* het ons ook die verslag geplaas waarin Snyman en Murray<sup>3</sup> hul bevindings beskryf in 'n studie van 964 nie-Blanke kinders wat gedurende Mei 1960 in die buitepasiënteafdeling van die Karl Bremer-hospitaal,

Bellville, Kp., ondersoek is. Onder andere het hulle gevind dat 28.3% van hierdie kinders geen melk nie of minder as een pint per dag ontvang. Tussen die ouderdomme van 1 en 2 jaar ontvang 66% geen melk nie of minder as een pint per dag. Van hierdie duisend kinders het maar net 10.9% 'n min of meer normale gewig gehad. Die groot meerderheid was ver onder hulle verwagte normale gewig — 41% was 25% of meer onder die normale gewig.

Die kinders het 'n besondere swak voedingstoestand getoon. Kwashiorkor of uittering was aanwesig by 8.4% en 48% het aan een of ander toestand gely wat ontstaan op die basis van ondervoeding, bv. rachitis, tuberkulose, gastro-enteritis, of brongopneumonie.

Hierdie bevindings word eintlik meer skrikwekkend as ons hulle sien teen die agtergrond van die bevinding van Schrimshaw en Béhar<sup>4</sup> wat aangetoon het dat vir elke enkele geval van kwashiorkor in die bevolking daar ten minste 'n honderd gevalle van onderliggende proteïengebrek is — 'n toestand waarna as pre-kwashiorkor verwys kan word. Hierdie gevalle kan juis ontdek word op grond van die feit dat hulle gewig onder die normale is.

Aan hierdie bedroewende toestand van sake sou daar wel baie gedoen kon word. 'n Groot stap in die regte rigting, om maar een voorbeeld te noem, sou wees om goedkoop melk en ander proteïenkosse beskikbaar te stel vir voorskoolse kinders. Ook hier kan ons egter nie die faktor van opvoeding en voorligting buite rekening laat nie. Moodie,<sup>2</sup> na wie se werk ons alreeds verwys het, maak byvoorbeeld met ontrusting melding van die feit dat so 'n groot deel van die nie-Blanke bevolking nie gebruik maak van die hulpdienste wat kinderwelvaartklinieke wel lewer nie. Die faktore wat hiervoor verantwoordelik is, moet bestudeer en, indien moontlik, uitgeskakel word.

Hierdie hele probleem sal op 'n breë basis en met verwysing na al sy maatskaplike en mediese implikasies aangepak moet word, indien ons sukses wil bereik. Dan sal ons ook minder hoef te spandeer aan die bou van duur nuwe hospitale, omdat so baie van die siek en ondervoede kinders nooit in die toestand van hospitaalbehoewendes behoort te verval nie. Soos 'n ketting net so sterk is soos sy swakste skakel, is die struktuur van ons gesondheid as bevolkingsgroep in Suid-Afrika net so goed of net so swak soos die fondamente waarop dit berus. Om die kinders van alle dele en lae van ons bevolking goed te versorg, is 'n maatskaplike en beskawingsverpligting waaraan ons nie kan ontkom nie. Laat ons ook hierdie vraagstuk aanpak op die grondslag van doelgerigte en verbeeldingryke beplanning.

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## ANGIOTENSIN

The kidney has long been suspected of causing arterial hypertension. A certain amount of experimental work was done in the past to prove this, but the first really important demonstration of renal hypertension, persistent and reproducible, was made by Goldblatt in 1934.<sup>1</sup>

An enzyme, renin, was previously studied, often with impurities in the preparation, but in later studies it was shown that it was not a direct pressor substance. The formation of an active substance from the interaction of renin and plasma was shown by Page and Helmer<sup>2</sup> to yield a pressor and vasoconstrictor agent of great potency, for which the name angiotensin was proposed. Work in the Argentine by Houssay, Braun-Menéndez and others resulted in the demonstration of a vasoconstrictor substance from ischaemic kidneys, and by allowing renin to act on plasma they found a pressor substance which they called hypertensin, the substrate in the plasma being called hypertensinogen.

Braun-Menéndez and Page suggested the name angiotensin as a compromise to replace the terms angiotensin and hypertensin. The last word has not been said, since clear-cut proof of the occurrence of renin and, more important, of angiotensin in blood is still urgently needed. For that matter the problem of the renin content of the kidneys is still unsolved. Renin has not been demonstrated in the plasma of patients with essential hypertension. It is possible that small amounts of angiotensin, acting slowly and constantly over a long period, can cause sustained hypertension. It may even be that the direct pressor effect of angiotensin is not concerned in the mechanism of hypertension. In other words, it still remains to be shown that angiotensin (or some other substance) maintains elevation of the blood pressure in essential hypertension, comparable, for instance, with the noradrenaline action in pheochromocytoma.

Angiotensin has been synthesized, thanks to the introduction of the methods of chromatography and counter-current distribution.<sup>3</sup> Angiotensin prepared from bovine plasma contains ten amino acids, eight of which are different. Horse and hog angiotensins are also decapeptides, but contain nine different amino acids. The sequence

of the amino acids in these polypeptides has been determined.

Angiotensin occurs in two forms, the first, angiotensin I (decapeptide) being converted into the second, angiotensin II, by a plasma enzyme named converting enzyme. Some of the degradation products of angiotensin possess pressor activity. Certain samples have been shown to have oxytocic activity.

Attempts have been made to compare the biological activity of natural and synthetic angiotensins.<sup>3</sup> Tests have been made with regard to the pressor or vaso-active potency, but other actions may lead to a better understanding of these compounds. Methods are required for the exact measurement of small amounts of angiotensin. If angiotensin could be demonstrated in increased amounts in the peripheral blood, the diagnosis of renal hypertension would be relatively simple; the mechanism of essential hypertension might be explained on the basis of the renal-pressor system, but, as indicated above, it is still not certain that angiotensin has ever been demonstrated in renal or peripheral blood.

Most investigators in the field are still wary in spite of the claims made by certain workers that, at least in malignant hypertension in man and experimental renal hypertension in dogs, the blood pressure is elevated by angiotensin. Much effort has been exerted to find other pressor substances in the blood of hypertensives, or accessory factors that may affect the actions of angiotensin. Interest has also been shown in naturally occurring inhibitors of angiotensin, but no useful observations have so far been made. Many drugs have been tested for their effect in modifying the responsiveness to angiotensin. Most of them produce little effect in this direction.

It is predicted that arterial hypertension will eventually be shown to arise on the basis of a mechanism involving chemical mediators. Angiotensin may be one component of an equilibrated system in which alteration occurs resulting in sustained change in arterial tone and cardiac output.<sup>3</sup>

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## THE EFFECTS OF ADRENAL REGENERATION AND OF CORTICOIDS ON EXPERIMENTAL NON-DIETARY CIRRHOSIS IN RATS\*

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If bilateral adrenalectomy is performed in rats receiving repeated intravenous injections of egg yolk, a fine non-progressive fibrosis is transformed into a severe progressive one, and the animals rapidly succumb.<sup>1</sup> This high mortality after bilateral adrenalectomy did not occur in a series of 6 animals in whom adrenal regeneration took place or in a further 4 animals where adrenal enucleation was done in place of adrenalectomy. Regeneration occurred in 20-30 days, and the amount of adrenal tissue produced varied in size from microscopic foci to small nodules visible to the naked eye—the

latter being found in animals that survived the longest. Hydrocortisone (2-5 mg.) given before each injection of egg yolk also prevented fatalities after bilateral adrenalectomy in a series of 9 animals, but did not prevent adrenal regeneration in 4 of the 9.

Small numbers of cells resembling those of the normal zona glomerulosa could be found in some regenerated adrenals, but in these and in fact in all cases of adrenal regeneration, the great majority of cells resembled those of the normal fascicular zone. Hydrocortisone did not appear to show selective inhibition of either glomerular or fascicular type cells in the regenerated adrenal tissue.

\* Abstract of a paper presented at Research Forum, University of Cape Town, on 15 June 1961.

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Although both hydrocortisone and adrenal regeneration secured survival of the animals, neither appeared capable of preventing some progression of the hepatic fibrosis when injections of egg yolk were continued after bilateral adrenalectomy. Preliminary results suggest that deoxycorticosterone

acetate may be less effective than hydrocortisone in reducing mortality, while 'phenegan' appears to have no protective effect.

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## DIVERTICULAR DISEASE OF THE COLON

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## PART II

## SPREADING PERITONITIS

A spreading peritonitis as a result of diverticulitis may result from 1 of 3 pathological processes:<sup>22</sup>

1. Free perforation of a diverticulum with little macroscopic evidence of diverticulitis.
2. Rupture of a pericolic abscess.
3. Spreading peritonitis associated with acute diverticulitis, but no visible perforation or pericolic abscess.

MacLaren<sup>22</sup> has emphasized the importance, prognostically, of the faecal peritonitis associated with free perforation of a diverticulum, compared with the purulent peritonitis in the other 2 groups. All 20 of his patients with free perforation and a faecal peritonitis were profoundly shocked and the mortality was 75%. In the other 2 varieties the mortality was in the region of 30%.

In this series, 11 patients had a spreading or generalized

TABLE III. SPREADING PERITONITIS

Case	Sex	Age	Treatment	Result
Free perforation:				
1	M	69	Suture, drainage, colostomy	Died after 24 hours
2	F	47	Conservative .. ..	Recovered
3	F	72	Suture, drainage, colostomy	Recovered
4	M	66	Suture, drainage, colostomy	Died after 2 days
5	M	46	Suture, drainage, colostomy	Recovered
6	F	64	Suture, drainage, colostomy	Recovered
Ruptured pericolic abscess:				
7	F	79	Conservative .. ..	Died
8	M	32	Colostomy and drainage ..	Recovered
9	M	55	Colostomy and drainage ..	Died
Acute diverticulitis with spreading peritonitis:				
10	F	65	Conservative .. ..	Died after 24 hours
11	M	47	Drainage only .. ..	Recovered

peritonitis. All 3 of MacLaren's groups are represented, but the numbers here are too small to permit valid statistical comparison. The cases are summarized in Table III.

## 1. Free Perforation

There were 6 patients in this group, of whom 2 died. In all except one who recovered with conservative management, the treatment consisted of suture of the perforation, drainage of the peritoneal cavity, and a proximal (transverse) colostomy. The diagnosis in the conservatively treated patient is, of course, presumptive. She had much free gas under the diaphragm, and subsequent investigations by barium meal and enema revealed only the presence of a gross diffuse diverticulosis. There was no evidence of gastric or duodenal

ulceration. Two of the 3 patients who survived the initial operative treatment proceeded to a staged resection of the sigmoid colon. The third patient (case 5) merely had his colostomy closed. This decision led to a considerable difference of opinion and will be considered again later.

## 2. Ruptured Pericolic Abscess

Two of the 3 patients in this group died. One of those who died was managed conservatively. The other 2 patients were treated by drainage of the abscess and a proximal (transverse) colostomy.

## 3. Diverticulitis with Spreading Peritonitis

One of the 2 patients in this group was managed conservatively—she was practically moribund on admission—and she died within 24 hours. The other patient recovered after drainage of the peritoneal cavity only.

## Discussion

The overall mortality of the 11 cases was thus 45%. It is important to consider the fatal cases in greater detail in an attempt to explain this high figure.

*Case 1.* The patient was admitted with a general peritonitis of a few hours' duration. There was free gas under the diaphragm, and the provisional diagnosis was a perforated peptic ulcer. The patient only consented to operation several hours later. At operation there was a perforated sigmoid diverticulum with a faecal peritonitis. The patient died in a state of shock 24 hours later.

*Comment:* A more vigorous attack on the profound hypovolaemia in these patients is certainly the most important single factor to be considered if we are to reduce the appalling mortality in this type of case.

*Case 4.* In this patient there was a 5-day delay before the surgeons were called to see the patient, and he died 2 days after the operation.

*Case 9.* Here there was a 13-day delay before the diagnosis was made and operation performed. The patient was admitted to the physicians with a diagnosis of pyrexia of unknown origin, with minimal abdominal signs. Quiet perforation is, of course, a well-known, if rare, presentation of these cases.<sup>58</sup>

*Comment:* These 2 cases illustrate the rôle of continued peritoneal re-infection in producing the high mortality, and our surgical efforts must obviously be directed against this factor.

*Cases 7 and 10.* These 2 patients were both practically moribund on admission, the first on account of co-incident haemorrhage from oesophageal varices, and the second because the perforation had occurred a week before admission. It is difficult to see how any therapeutic measures could have saved them.

From the lessons learned from these cases, 2 over-riding principles in the management of these cases can be enunciated. The first and most important is the need to combat the profound hypovolaemia in generalized peritonitis, which has been likened in its effects on circulatory haemodynamics to a burn of practically the entire skin surface.<sup>52</sup> The second principle

is the prevention of the continued re-infection of the peritoneal cavity, and it is in the surgical measures adopted to accomplish this that there is so much difference of opinion. The procedures available are sutures of the perforation, a proximal diversionary colostomy, or resection of the offending segment.

1. *Closure of the perforation.* It is certainly reasonable to do this if possible, but there are 2 obvious difficulties in effecting it. In many cases it is impossible to identify the actual site of the perforation. Even if the perforation can be found, the edges may be too friable and oedematous to permit apposition by suture. Plugging with a piece of omentum can be employed. This was done in 2 of the above cases. This procedure is naturally not applicable to cases of perforated pericolic abscess.

2. *Proximal colostomy.* The practice of performing a proximal diversionary colostomy is widespread, but many authors have justifiably questioned the rationale and necessity of this procedure. Reference may be made to the paper by MacLaren<sup>22</sup> for a comprehensive review of the evidence in the literature for and against the value of a proximal colostomy. It is argued that a transverse colostomy can have no effect in diverting the faeces already contained in the left colon. To overcome this objection, Maingot<sup>23</sup> advised the injection of tetracycline into the distal loop, and Bacon and Valiente<sup>24</sup> injected 5 G. of neomycin in 500 ml. of saline into the colon well proximal to the perforation, flushing the solution through the entire length of the colon by manipulation.

3. *Primary resection.* This is a rather startling and heterodox measure, but resection may be mandatory on occasion, e.g. in the rare cases where the perforation is very large or in cases of gangrenous sigmoiditis, with anaerobic cellulitis of the mesentery. A Paul-Mickulicz type of resection with exteriorization is theoretically ideally suitable for an inflammatory lesion, but unfortunately the mesentery of the colon is usually so oedematous, friable and contracted that this technique is impossible.

The concept of primary anastomosis following resection in perforated diverticulitis is a recent and highly controversial one. In 1958 Ryan<sup>25</sup> described 4 cases of resection and primary anastomosis in a series of 9, with survival of all. He does not, however, advocate indiscriminate resection in cases of perforation. The patient must be fit enough to stand the procedure, and the lesion must be technically amenable, i.e. it must be localized and mobile. The presence of obstruction and advanced general peritonitis are contraindications. Ryan feels that there is no reason why peritonitis should interfere with anastomotic sutures and, in addition, early peritonitis will settle if the source of re-infection is removed. He states that the safety of bowel anastomosis depends on local factors, such as the avoidance of tension and strangulating sutures, the preservation of blood supply and meticulous mucosal inturning. The absence of bowel preparation is not held to be a contraindication.

It seems that the type of case for which Ryan advocates primary resection and anastomosis is mainly, if not entirely, restricted to rupture of a diverticulum with minimal surrounding diverticulitis, that is if his contraindications to primary anastomosis are strictly observed. This would appear to be the very type of case in which the indications for resection, even at a later stage, are most debatable. It can be argued that rupture of such a diverticulum is an isolated episode, since this type of case has seldom had any previous inflamma-

tory episodes, and that such a patient is no more likely to rupture another diverticulum or develop recurrent attacks of diverticulitis than are the many thousands of people who carry their diverticula asymptotically to the grave.

It was on the basis of this philosophy that case 5 had a closure of his colostomy performed rather than a staged resection of his sigmoid colon. This decision was criticized on the basis of evidence in the literature to the effect that simple closure of a colostomy without resection of the offending segment is followed by a prohibitive incidence of further trouble. Thus Pemberton *et al.*,<sup>6</sup> reporting from the Mayo Clinic, found further exacerbations in 20 of 29 cases after simple closure of the colostomy. In 1942 Smithwick<sup>1</sup> reported an incidence of 45% recurrences with the same procedure. However, most of these operations do not seem to have been performed for the type of case we are considering, but rather for severe inflammatory complications with presumably irrevocable structural changes in the bowel, so that recurrences would be expected after closure of the colostomy. It is felt, therefore, that before a simple closure of colostomy is advised there should be good evidence from the operative appearance of the bowel, from the patient's past history, and from the radiological appearances of the colon, that the pathology was a simple rupture of a diverticulum. The radiological appearances are extremely difficult to assess, as will be discussed in a later section, and it remains to be emphasized that each case must be considered carefully on its merits before a decision is made. It is also worth re-emphasizing that these technical manoeuvres are subsidiary in importance to the vigorous and adequate restoration of blood volume. It is also interesting to note that in MacLaren's series, divided into groups according to the availability of antibiotics of various types, administration of antibiotics had little, if any, influence on the mortality figures.

In the rare cases where resection is mandatory, it seems correct to agree with the more orthodox view of Guy and Werelius<sup>26</sup> that, whereas the dangers of resection are probably over-emphasized, primary anastomosis is unwise. A Hartmann's type of operation is a safer alternative.

#### ABDOMINAL MASS

In cases where a mass, palpable either abdominally or per rectum, is the presenting clinical feature, the differential diagnosis from carcinoma is an important and interesting problem. To quote Colcock and Sass,<sup>28</sup> the differential diagnosis is 'easy in most, difficult in some and impossible in a few'.

Since the sigmoid colon is the site of predilection for both diverticulitis and carcinoma of the colon, and since both conditions are reasonably common, the 2 lesions may justifiably be expected to occur together in a fair number of cases. However, figures from the literature are striking in the infrequent coincidence of diverticulitis and carcinoma. Thus Rankin and Brown<sup>27</sup> found only 4 cases of carcinoma in 227 cases of diverticulitis, and 4 cases of diverticulitis in 679 cases of carcinoma.

The difficulty in making a pre-operative distinction in some instances is reflected in the experience of several writers. Waugh and Walt<sup>29</sup> found the distinction impossible in 25% of 93 cases; 5% were diagnosed as definitely carcinoma, 5% as probable carcinoma, and 15% as equivocal. Laufman<sup>30</sup>

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The criteria available for differential diagnosis are clinical, sigmoidoscopic and radiological.

#### Clinical

Of the 90 cases in this series, 17 (19%) presented with a mass. This experience is the same as that of Arnheim<sup>31</sup> in 834 cases. Colcock and Sass<sup>28</sup> pointed out that both conditions have the same 3 cardinal clinical features, namely, pain in the left iliac fossa, bleeding per rectum and alteration in the bowel habit, but, in an analysis of 50 cases of each condition, they found significant differences in the incidence of the various clinical features. Thus pain and pyrexial manifestations were 3 times as common in diverticulitis as in carcinoma, whereas bleeding per rectum was 3 times as common in carcinoma. The average duration of symptoms was 3 years in diverticulitis as opposed to 8½ months in carcinoma. A significant figure is that, whereas abdominal tenderness is common in both lesions, rectal tenderness was absent in all cases of carcinoma, but present in 16% of diverticulitis.

In the present series of 17 cases presenting with a mass, these general tendencies are confirmed. Fifteen patients had pain as a prominent symptom, the mass was tender in 14, systemic features of inflammation were present in 13, but rectal bleeding was a feature in only 3. There was an alteration in bowel habit in 14 patients—constipation in 7, diarrhoea in 6, and alternating constipation and diarrhoea in 1. The fact that 2 of the 17 patients (12%) had resections performed because carcinoma could not be excluded, indicates that the general tendencies in a series do not always provide the answer in the particular case, which must naturally be considered on its merits.

#### Sigmoidoscopy

There are conflicting views on the value of sigmoidoscopy in diverticulitis. Boyden<sup>13</sup> stated that it provides little diagnostic aid. Waugh and Walt<sup>29</sup> found the main value of the procedure to be the exclusion of associated lesions, and that, where radiology could not exclude carcinoma, sigmoidoscopy tended to fail as well. Thus it failed when help was needed most. Many surgeons would agree with this view, certainly in those cases where the actual lesion is beyond reach of the instrument. However, Buie and Jackman<sup>32</sup> and Smith<sup>33</sup> found the procedure a definite help and listed 5 signs strongly suggestive of diverticulitis. They are:

1. Limited mobility of a segment normally mobile.
2. Angulation caused by inflammation.
3. Reduced lumen and adherent mucosal folds.
4. Saccululation of the sigmoid.
5. Visualization of the actual diverticular openings.

One or more of these signs was seen in 66% of 242 cases so examined. Actual diverticula were seen in 35 cases.

Todd<sup>3</sup> also found the procedure valuable and, in the acute stage, oedema of the mucous membrane together with an excess of mucus are suggestive signs. In his experience inflammatory signs are unusual distal to a carcinoma. Colcock and Sass<sup>28</sup> concurred on this point. The experience of this series supports the view that the main value of sigmoidoscopy is in the exclusion of other lesions. The observation of Todd and of Colcock, namely, excessive mucus, was vividly confirmed on one occasion in this series.

#### Barium Enema

This investigation is the most important aid in the differential diagnosis between diverticulitic and carcinomatous masses. There are several well-recognized criteria to be used, but none is pathognomonic.

1. *The mucosal pattern* is stressed by Schatzki<sup>34</sup> and other authors. Diverticulitis is an intramural but extramucosal lesion; thus the demonstration of preservation of mucosal pattern is of fundamental importance. In carcinoma there is



Fig. 3. Filling defect from diverticulitis. Mucosal pattern intact.

early destruction of the mucosal pattern. Fig. 3 shows a constant filling defect in the sigmoid colon. The mucosal pattern remains intact.

2. *The appearance of the filling defect.* In diverticulitis the constricted area tends to have cone-shaped ends which show some flexibility (Fig. 4), whereas carcinoma has sharply defined margins with overhanging edges, producing a shelf-like defect. The appearances in Fig. 5 suggested a carcinoma and a resection was performed. However, the lesion was diverticulitic, illustrating once more the difficulty in diagnosis in some cases. A long filling defect (Fig. 4) also favours the diagnosis of diverticulitis.

3. *The appearance of the adjacent bowel.* Schatzki<sup>34</sup> stated that diverticulitis should not be lightly diagnosed in the absence of demonstrable diverticula, but on the other hand the mere presence of diverticula in the adjacent bowel is not of much importance. When a diverticulum can be seen in the narrowed area, as in Fig. 6, the lesion is most unlikely to be a carcinoma.

#### Management

The management of patients with pericolic masses was purely conservative in 12 of the 17 cases. Two patients had laparotomies only, one by the gynaecologists, and the other apparently for diagnostic reasons in 1943. The second of these 2 patients developed a further mass 10 years later and was successfully managed by conservative measures on this occasion.

Three patients required definitive operations. In 2 carcinoma could not be excluded and resection was performed; one had a resection and anastomosis with complementary caecostomy, and the other a formal 3-stage sigmoidectomy. The third



Fig. 4. Filling defect from diverticulitis. Note the length of the defect and the cone-shaped edges.



Fig. 5. Filling defect caused by diverticulitis and simulating carcinoma. Note the short length of the defect and the overhanging edges.

patient required drainage of an abscess followed by a transverse colostomy 3 months later when the mass was still palpable. He was followed-up for 14 years after this, resection having been deemed inadvisable because of several myocardial infarctions.

These figures testify to the efficacy of the modern conservative management of the pericolic mass. In 1 patient only (drainage of an abscess followed by colostomy) did the inflammation fail to subside. One further patient, however, has a resection pending because a mass has failed to resolve

completely in 3 months although there are no local or general features of inflammation.

#### FISTULA FORMATION

In this series of 90 cases of symptomatic diverticular disease of the colon, drawn from the records of this hospital for the last 5 years, not a single case of colo-vesical or colo-cutaneous fistula has been observed. This is in accordance with the trend observed in the literature, and it can reasonably be ascribed to the effective management of the acute episode made possible by the advent of the antibiotics.

In 1917 Telling and Gruner<sup>30</sup> found some type of fistula in 19.8% of diverticulitis. In 1938 Gouverneur *et al.*<sup>32</sup> reported an incidence of 38 vesico-intestinal fistulae in 423 cases (11.1%), and in 1940 Arnheim's<sup>31</sup> figure was 8%. In 1955, Reid and Workman<sup>38</sup> found the incidence to be only 1.5% of 266 hospital cases, and in the same year Friesen and Schmidt<sup>35</sup> reported that they had encountered only 1 case in 5 years.

Certain features of colo-vesical fistulae are of interest:

1. The vast majority of cases occur in males.<sup>37,34</sup> The interposition of the uterus and adnexae between the sigmoid colon and the bladder in the female probably accounts for the rarity of this complication in this sex.

2. Pneumaturia is the prominent symptom, and usually precedes the passage of faeces per urethram by a considerable time.<sup>29,37,34,35</sup>

3. Urinary symptoms often regress to a remarkable extent after the establishment of the fistula, since the bladder appears



Fig. 6. Filling defect caused by diverticulitis. There is a diverticulum within the defect.

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to acquire a marked tolerance to the presence of faeces. Ascending urinary infection is rare.<sup>54-56</sup>

4. Passage of urine per rectum is very rare.<sup>57,58</sup>

5. Cystoscopy is of more value in diagnosis of this complication than sigmoidoscopy.<sup>57,58,59</sup>

6. Operation is not always indicated in the management of this complication, particularly in the elderly individual in whom the fistula may cause surprisingly little inconvenience.<sup>59,60</sup>

7. When operation is indicated, a staged procedure is probably the safest,<sup>54</sup> but there are increasing numbers of reports appearing concerning the feasibility and safety of the 1-stage procedure. Nine of 93 single-stage resections reported by Waugh and Walt<sup>59</sup> from the Mayo Clinic had sigmoidovesical fistulae. Ormond<sup>59</sup> struck a more cautious note in advising single-stage operations in selected cases only.

#### INTESTINAL OBSTRUCTION

Acute mechanical intestinal obstruction is a relatively uncommon complication of diverticulitis. In this series, intestinal colic was a common symptom, but in only 3 cases was a diagnosis of actual intestinal obstruction made. These cases illustrate 3 possible mechanisms whereby obstruction can be produced by diverticulitis.

The first patient had an acute small-bowel obstruction as a result of adhesions of the small bowel to an area of diverticulitis in the sigmoid colon. The second patient had a large-bowel obstruction rendered acute by faecal impaction in a diverticular stricture at the junction of the descending and sigmoid colons. The acute episode was successfully relieved by enemata. The last patient presented with a small-bowel obstruction. At laparotomy the mechanism was found to be a localized ileus of the coils of ileum lying in juxtaposition to an area of diverticulitis of the lower sigmoid colon. There was no mechanical obstruction by adhesions and the colon was not obstructed at all.

#### UNCOMPLICATED DIVERTICULITIS

In this series of 90 cases, 39 were coded as diverticulitis and did not have any of the major complications of massive haemorrhage, intestinal obstruction, fistula formation, or perforation with spreading peritonitis or a local pericolic abscess.

The classical picture of acute diverticulitis is well known, and is usually stated to be that of left-sided appendicitis, with pain and tenderness in the left iliac fossa associated with nausea and vomiting. Pyrexia and leucocytosis reflect the systemic manifestations of acute inflammation, and a barium enema in the quiescent stage provides radiological confirmation of the diagnosis. The problem, however, is not quite as simple as stated.

Analysis of these 39 patients shows that the main criterion for labelling a case as diverticulitis was radiological, yet 8 of the 39 patients in this group showed no reliable clinical evidence of diverticulitis in that there was no significant tenderness abdominally or rectally. The remaining 31 patients

all had significant local tenderness and usually also systemic evidence of acute inflammation in the form of pyrexia and/or leucocytosis. These cases therefore raise the important question whether several widely accepted radiological criteria for the distinction between diverticulosis and diverticulitis are indeed valid. The question has far more than academic interest because, in addition to its influence on the management of any particular case, an accurate differentiation has an important bearing on the assessment of the natural history of the condition, and this in turn will reflect on our attitude to the management of the condition in general.

Table IV summarizes the important features of the patients in this group. In the group of 8 patients with no tenderness,

TABLE IV. UNCOMPLICATED DIVERTICULITIS

	Tenderness present	No tenderness present
Pain:		
Nil .. .. .	0	4
Left iliac fossa .. .. .	23	2
Lower abdomen .. .. .	3	1
Upper abdomen .. .. .	2	0
Generalized .. .. .	3	1
Pyrexia .. .. .	20	2
Bowels:		
Constipation .. .. .	15	3
Diarrhoea .. .. .	2	4
Normal .. .. .	14	1
Urinary symptoms .. .. .	7	0
Barium enema:		
'Diverticulosis' .. .. .	5	0
'Diverticulitis' .. .. .	26	8
Treatment:		
Conservative .. .. .	24	7
Operative .. .. .	7	1

4 presented with diarrhoea as the main complaint, and 4 had no abdominal pain whatsoever. The remaining 31 patients all complained of abdominal pain; in 23 (68%) it was situated in the left iliac fossa. Only 2 of these patients complained of diarrhoea and, of the rest, approximately a half were constipated and the other half had normal bowel habits.

In the smaller group of 8 non-tender patients, all the barium enemata were reported as showing the features of diverticulitis. In fact, this was the sole reason for making the diagnosis. Numerous other patients with diverticula and similar symptoms were discarded from the series on the basis of a report of diverticulosis only. It is significant that, of the 31 patients with a reasonably confident clinical diagnosis of diverticulitis, 5 were reported as showing the radiological features of diverticulosis only. The conclusion was thus reached that it was important to review as many of the films as possible, as well as the literature on the radiological diagnosis of diverticulitis.

(To be concluded)

## WHAT IS WRONG WITH ME?

## A STUDY OF THE VIEWS OF AFRICAN AND INDIAN PATIENTS IN A DURBAN HOSPITAL

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It has been said that 'a study of the habits, feelings and beliefs of the individual is becoming an increasingly significant part of the physician's examination of his patient'.<sup>1</sup> A patient's views about the nature and causes of his illness may be of great relevance to his health and management. Ovedoff and Sneider,<sup>2</sup> for example, have described the high proportion of tuberculous African patients in Johannesburg who discontinue their treatment after their discharge from hospital, and have stressed the importance, in this regard, of the patient's understanding of his disease.

The present study of African and Indian patients' views about the nature and causation of their illnesses was undertaken in a Durban hospital in 1960. The objectives were: (a) to find what the views of this group of patients were; (b) to find whether these views were of medical significance; and (c) to explore the value of educating patients about their illnesses.

## SAMPLE AND METHODS

A representative sample of the patients admitted to 2 medical wards was interviewed. The sample was made up of the consecutive admissions to each ward within a defined period, excluding patients under 18 years of age, those not fully rational, and those admitted for research purposes.

There were 91 patients in this sample: 75 African (69 of whom were Zulu), and 16 Indian (of whom 13 were Hindu and 3 Moslem). Since only one of the wards admitted women, the sample was predominantly male (88%). A further 19 patients died, were transferred elsewhere, or were discharged before they had been interviewed. Unless otherwise stated, the results which follow relate to the 91 patients in this sample.

In addition, selected results will be presented for 3 samples of African patients treated for uncomplicated lobar pneumonia (35 patients), congestive cardiac failure (41), and amoebic liver abscess (24). Approximately one-third of the patients in these 3 samples were also included in the representative sample.

The interviews were performed at the bedside soon after admission, in the patient's own language in most cases, by a nursing sister not connected with the hospital (C.M.). Some of the patients were interviewed in an 'overflow' hospital to which they had been transferred after their admission. The interviews were as informal as possible. A questionnaire was used, which included a number of general questions concerning the illness, what the patient thought or had been told about it, and the steps he had taken. The patient was also asked whether he thought his illness was related to his food, work, smoking, drinking, or worries, whether he thought he had a 'Bantu disease' or had been 'tricked', whether he thought he might have inherited it or got it from somebody else who was ill, and whether he thought it might be a punishment, or result from any act or omission on his part. Almost all the patients responded freely.

\* Since the article was written, the Institute closed down on 31 January 1961.

Subsequent to these interviews, a number of randomly selected patients were subjected to an experiment in patient education. In the course of an informal discussion, the nature of their disease was discussed with them individually, in order to see whether this procedure (in addition to whatever education might be given in the ward as a routine) increased the proportion of patients keeping their appointments for review after their discharge. For this purpose, patients were chosen who, on the basis of their diagnosis on admission, appeared likely to be asked to return for re-examination or further treatment. Their records were compared with those of control patients, individually matched on the basis of their ethnic group, their final diagnosis, and the ward in which they were treated. There were 67 patients in the experimental group, 16 of whom were also included in the representative sample. However, in the course of the study this number shrank to 34 as a result of deaths, transfers, changes in diagnosis, or difficulties in finding suitably matched controls, or because the patient was not requested to return after his discharge.

In describing the findings, the term 'bewitchment' is used to indicate the processes producing illnesses regarded by African patients as 'Bantu disease' (*isifo saBantu*), and that referred to by Indian patients as 'being tricked'. In most or all cases it refers to sorcery, i.e. deliberate efforts to produce harm, usually by the use of medicines or spells. The term *inyanga* is used in the sense in which it was used by the patients, i.e. to indicate a person skilled in both the diagnosis and the treatment of 'Bantu disease'. This was the only category of traditional diagnostician mentioned by patients.

In assessing the statistical significance of the findings, use was made of the chi-square test, with Yates' correction, or, where applicable, of Armsen's tests for fourfold tables.<sup>3</sup>

## RESULTS

## Patients' Views

The patients' views concerning the causation of their illnesses are summarized in Table I. The cause most commonly suspected was bewitchment, relatively little significance being attached to other specific factors.

Of the 75 African patients, 18 (24%) thought they had definitely been bewitched, and 23 (31%) that they had possibly been bewitched. Among the 16 Indian patients, the corresponding figures were 1 (6%) and 4 (25%) respectively. The specific bewitchment syndromes most commonly mentioned by the African patients were *umego*, which is caused by walking over or touching a substance strategically placed by an ill-wisher (16 patients), and *idlisio*, which results from the ingestion of a substance placed in food or drink (8 patients). Other conditions or mechanisms mentioned were *ilumbo*, *ufufunyane*, *ibulawo*, *umbulelo*, *amanzi* and *uvalo* (1 patient each). Possible ill-wishers who were named were relatives (6 patients), neighbours (5), romantic rivals (5), and fellow-workers (1). The precipitating situations mentioned were jealousy of the patient's prosperity (7 patients) or of his romantic success (5), and quarrels with his wife (1).

TABLE 1. PERCENTAGE OF PATIENTS STATING THAT THEIR ILLNESS IS OR MAY BE RELATED TO VARIOUS SPECIFIED FACTORS

Specified factors	Percentage of patients		
	African (N=75)	Indian (N=16)	Combined (N=91)
Bewitchment .. ..	54.7	31.2	50.5
Drink .. ..	18.7	6.2	16.5
Work .. ..	18.7	6.2	16.5
Food .. ..	9.3	12.5	9.9
Excessive bile* .. .	8.0	0	6.6
Worry .. ..	4.0	12.5	5.5
Punishment .. ..	4.0	12.5	5.5
Worms* .. ..	4.0	0	3.3
Smoking .. ..	2.7	6.2	3.3
Own acts or omissions ..	2.7	6.2	3.3
Miscellaneous* .. .	2.7	6.2	3.3
Inheritance .. ..	1.3	6.2	2.2
Infection .. ..	1.3	0	1.1

\* Volunteered by patients; specific questions not asked.

The patients who suspected bewitchment suffered from a wide range of diseases. However, a comparison of the sample of African patients with lobar pneumonia, with those with congestive heart failure and amoebic liver abscesses, revealed that such beliefs were far commoner in the last 2 groups. Of 35 patients with pneumonia, only 8 (23%) thought they were or might be bewitched, whereas of 41 with congestive cardiac failure, 26 (63%) thought they were or might be bewitched ( $P < .001$ ), and of the 24 with liver abscesses, 16 (67%) ( $P < .01$ ) did so. Lobar pneumonia was regarded as being less serious. Only 17 (49%) of the patients with pneumonia replied 'Yes' to the question 'Are you seriously ill?', compared with 39 (95%) of those with congestive cardiac failure ( $P < .001$ ), and 18 (75%) of those with liver abscesses ( $P < .1$ ).

The African patients who thought they had definitely been bewitched tended to say that their relatives or friends agreed with this view. Such a statement was made by 9 of 18 such patients, but by only 2 of the 23 patients who were not convinced that they had been bewitched, and by only 4 of the 34 patients who ascribed their illness to natural causes ( $P < .01$  in each case).

There was no relationship between the beliefs of African patients and their standard of school education, except that the few patients with 7 or more years of schooling were slightly, but not significantly, less likely to suspect a supernatural causation. The 'bewitched' patients included one schoolteacher.

Five patients thought their illness might be a punishment, inflicted by their ancestors in the case of African patients, and by divine powers in the case of Indian patients.

Fifteen patients (16%), most of them currently or previously heavy drinkers, thought that drinking had or might have contributed to their illness. Three of these were admitted for direct complications of drinking bouts, and 8 others for conditions to which their drinking might possibly have contributed.

Of the 52 other suspicions which were voiced about the rôle of specific factors, only 19 (37%) could be regarded as possibly justified. Examples were an ex mine-worker with cor pulmonale, who blamed his work, 2 patients with peptic ulcers who thought their worries had caused their illness, a hypertensive whose brother and sister had died of hypertension and who suspected hereditary factors, and a patient who thought that clarinet-playing had produced his laryngitis.

By and large, the patients' views bore little relationship to medical knowledge concerning the aetiology of their disorders. Only 1 patient answered 'Yes' to the question 'Do you think you may have got your illness from somebody who was ill?', and none thought their contacts might get the same illness, although many had infectious disorders. There were, for example, 9 patients with pulmonary tuberculosis, 14 with other respiratory infections, 11 with amoebiasis, and 3 with typhoid, meningitis and gastro-enteritis respectively.

There appeared to be little awareness that many of the diseases were preventable. Only 3 patients said their own acts or omissions might have contributed to their illness, 2 of them blaming their drinking habits. In answer to the direct question 'Do you think you could have prevented your illness?' 90 patients said 'No', and 1 'I don't know'.

#### Significance of Supernatural Beliefs

In order to assess the significance of the patients' supernatural beliefs, the African patients who believed their illnesses were from natural causes were compared with those who thought they were, or might be, from supernatural causes ('Bantu disease' or punishment by their ancestors). The former group (group N) contained 33 patients, and the latter (S) 42.

Group S included more patients who regarded themselves as being seriously ill. In this group there were 40 (95%) who replied 'Yes' to the question 'Is your illness serious?' In group N, there were only 24 (73%) who said 'Yes' ( $P < .05$ ). Although the prevalence of supernatural beliefs varied with the diagnosis, as pointed out above, this association appeared to be at least partly independent of the diagnosis. In the sample of patients with lobar pneumonia, there were 8 who suspected supernatural causes; of these, 7 said they were seriously ill. Of the 27 patients with pneumonia who ascribed their illness to natural causes, only 10 said they were seriously ill ( $P < .05$ ). A similar association was found in the sample of patients with amoebic liver abscesses.

It was not possible to ascertain whether the belief in a supernatural causation had resulted in a delay in medical treatment. However, 52% of the patients in group S stated that they had had recourse to an *inyanga* or religious sect ('Zionist' or 'Full Gospel') before their admission, compared with only 18% of those in group N ( $P < .01$ ). A highly significant relationship of this kind was found among the patients with congestive heart failure, and a similar, but non-significant, relationship among those with amoebic liver abscesses. These findings suggested that supernatural beliefs did in fact tend to delay medical treatment.

Patients suspecting a supernatural causation appeared less likely to believe the explanations given them by their doctor. In group S there were 16 patients who had been given explanations, of whom only 9 said they believed what they had been told. In group N, there were 15 such patients, of whom 13 believed what they had been told. This association fell short of statistical significance, as did that among Indian patients. However, among both groups combined, the association was significant ( $P < .05$ ).

The patients' records were examined to see whether those who had been advised to return for re-examination or further treatment did in fact do so within 3 weeks of the appointed date. Relatively few of the patients interviewed could, however, be included in this analysis. Many had not been



asked to return, had died, or had been transferred elsewhere. Also, it was necessary to exclude patients with lobar pneumonia and other acute febrile disorders, almost all of whom believed in a natural causation, and most of whom ignored their review appointments. Their inclusion would have obscured any actual relationship among patients with less short-term illnesses, between belief in a natural causation and the keeping of appointments. Further, those patients were excluded who had been educated about the nature of their illness as part of this study. The findings in the small residual sample of African patients were consistent with a relationship between suspicions of a supernatural causation and a failure to keep review appointments. Of 7 patients not suspecting a supernatural causation, 6 kept their appointments; of 21 suspecting a supernatural causation, only 9 kept their appointments. This difference fell short, however, of statistical significance.

#### *Education of Patients*

All the patients had been seen by at least 2 doctors before their interview, one in the outpatient department and one in the ward. At least 14 had been treated by other doctors for the same illness. However, only 43 (47%) said that a doctor had told them what was, or what was suspected to be, wrong with them. Of the 75 African patients, 31 (41%) said they had been told, and of the 16 Indian patients, 12 (75%) said so; this difference was significant ( $P < .05$ ).

A number of patients volunteered remarks indicating their dissatisfaction with this situation, such as: 'The doctors don't say anything—they just examine one and then talk among themselves in English'; 'I am very anxious to know what is wrong with me and how it started, but nobody has told me anything'; 'I just see that they write in the chart, and I read, but I don't know what it is', and 'I don't know what they think—they ask me what the matter is'.

Most of the patients who said they had received explanations regarding the name, nature or cause of their illness were apparently satisfied with these. Of 43 such patients, 33 (77%) said they believed what they had been told. Indian and African patients did not differ significantly in this respect.

The results of the experiment in patient education suggested, though they did not prove, an effect on the keeping of review appointments by patients with long-term diseases. The patients who, as part of this study, were given full explanations of their disorders included 23 with long-term disorders (congestive cardiac failure, hypertension, diabetes, amoebic liver abscess, peptic ulcer and anaemia). Of these, 16 (70%) kept their subsequent appointments; of the 23 matched controls, only 11 (48%) did so. This difference was not statistically significant. There was no such difference among the 11 pairs of patients with lobar pneumonia. The proportion of patients suspecting a supernatural causation was the same in the experimental and control groups.

#### DISCUSSION

It is well known that beliefs in the supernatural causation of illness are prevalent in African communities. The extent of this prevalence is perhaps less well known. In a recent study of 2 large Zulu population samples, Scotch found that 56% of the women in a rural group, and 60% of those in an urban group, answered 'Yes' to the direct question 'Have you ever had a "Bantu disease"?'<sup>24</sup> It has been stated that 'the majority of field-workers agree that African witchcraft beliefs, far

from having decreased with the advent of Western culture, have actually increased'.<sup>5</sup> The present findings confirm that such beliefs are widespread, even among patients making use of a Western hospital.

Beliefs of this kind may have important implications for the medical care of African patients, as numerous published case illustrations have shown.<sup>6-10</sup> Not only may they delay or prevent recourse to medical agencies, but they may impair the patient's relationship with his medical attendants and, as the present findings suggest, reduce the prospects of his continued cooperation in his treatment. The present findings suggest that in a medical ward such considerations are of particular importance in the treatment of long-term disorders. It is in the treatment of such disorders that the patient's continued cooperation in his treatment is of primary importance.

These beliefs have important implications for the mental health of patients. Witchcraft beliefs are, in Marwick's words, a 'safety-valve for the discharge of anxiety'.<sup>5</sup> A person exposed to stress may be able to minimize his anxiety in a culturally acceptable way by blaming the aggressiveness of others. Such persons are less likely to be disturbed by feelings of shame or guilt. On the other hand, as Marwick pointed out, witchcraft 'acts in a vicious circle, resolving anxiety but at the same time creating more of it'.<sup>5</sup> A bewitchment belief may itself produce or aggravate ill-health. Whatever the train of causation, there is a high prevalence, among bewitched patients, of 'psychogenic' disease.<sup>11</sup> The association found in this study between suspicions of a supernatural causation and a feeling that the illness was serious may be due partly to a lower threshold for such suspicions among patients who feel more ill, and partly to a tendency for the patients with such suspicions to magnify the severity of their illness.

The findings in the small Indian sample suggest that among Durban Indian patients, as well as among African patients, supernatural beliefs are prevalent. Their significance to these patients may, however, be very different. Kuper has stated that whereas 'among the Africans, serious illness is most frequently attributed to an external personal agent (an evil-doer) . . . among the South African Hindu the main responsibility is placed on the moral and religious behaviour of the individual and the reaction of the Divine'.<sup>12</sup>

Both the African and the Indian patients were ill-informed concerning the nature and causation of their illnesses, as seen by their physicians. This may be of considerable practical importance. 'There are many diseases in which the difference between a satisfactory and a poor therapeutic result is determined by the care with which the patient carries out the recommended programme of treatment. Attention to details may gain years of comfortable and productive life, and whether or not a person cooperates to the extent required usually depends on whether or not he understands the need for the measures advised'.<sup>13</sup>

No conclusions could be drawn regarding the extent to which the considerations discussed above influenced the medical care actually given to patients. It was noted, however, that the patients' notes seldom included any comments concerning the patients' beliefs. Also, less than half the patients interviewed stated that they had been told what was or might be wrong with them, by doctors in or outside the hospital. If in fact the attention given to patients did fall short, in these respects, of what might be regarded as desirable, this

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could possibly be ascribed to 2 main factors: time limitations, and limitations in the medical profession's awareness of the importance of cultural factors in medical practice. The importance of providing medical students with an adequate understanding of the cultural dimension of medicine has been stressed by many medical educators.<sup>9,14,15</sup>

#### IMPLICATIONS FOR PRACTICE

The present findings underline the value of 2 practical measures in patient care: (a) on a diagnostic level, an inquiry into the patient's beliefs concerning his illness; and (b) as a part of therapy, education concerning the nature and causes of the illness.

##### *Inquiry into the Patient's Beliefs*

It is often possible, merely by asking a patient what he thinks is wrong with him, what has caused his illness, and what he has done about it, to gain an adequate understanding of his aetiological beliefs. Such questions should form part of the routine interview. Sometimes it is less easy to determine his views, and leading questions may be required. Difficulties are particularly likely if the relationship between patient and doctor is unsatisfactory, or if a cultural or linguistic chasm separates them. Whatever difficulties there are, they are likely to be minimized if the doctor both has and shows an interest in the patient's views, but without setting himself up as an infallible authority whose function it is to give a verdict on their validity.

Only after the patient's beliefs have been probed in this way can conclusions be drawn about his educational needs. With one patient it may be concluded that he need only be told the diagnosis in so many words; while with another, further action may be necessary, either to motivate him to cooperate in his treatment, or because of his fears about the nature, cause, or effects of the illness.

Such an inquiry may not only reveal the patient's educational needs and indicate how educable he is, it may also bring to light the patient's major anxieties. Some patients, for example, fear bewitchment without being convinced that they have in fact been bewitched, and may come to a doctor specifically because they want to know whether, in the doctor's view, they are suffering from a 'natural' disease. Unless the doctor takes the initiative in raising this problem, it may never arise, and such patients may leave as fearful as when they arrived.

In some cases, an inquiry of this sort may bring ancillary benefits also. The patient's response may throw light on the diagnosis, or, more commonly, on the stresses to which he is exposed. A patient who says his illness may be related to his work, diet, or worries, or to bewitchment, for example, will often go on to provide valuable information about his life situation, with important implications for his management.

Questions of this sort appear to be well accepted by most patients, and resented by few. The comments made by the patients interviewed included 'I was pleased to be able to express my point of view', 'All people like explaining about their illnesses', 'I have a lot of worries—it's always nice to talk to people', 'I believe talking about an illness is part of the treatment', and 'I don't mind talking—I hope this will help in my treatment'. By showing an interest in his patient's views, the doctor may lay the foundation for a sound therapeutic relationship.

An inquiry of this sort may be as necessary with patients of other culture groups as with patients of the groups discussed in this report. One New York study has shown how inaccurate physicians may be in their estimates of patients' knowledge about disease.<sup>16</sup> There may be more misconceptions in any community than doctors realize. In a recent study of public opinion, for example, only 66% of a representative London sample stated that they thought that tuberculosis was 'catching'.<sup>17</sup> The predominant beliefs may vary in different cultures, and individual beliefs will vary within a culture, but with any patient of any culture, his beliefs have important implications for his management.

##### *Education of the Patient*

In some few cases, it may be deemed inadvisable to inform the patient even of the diagnosis, but in many cases it is desirable to go beyond this, and take active steps to improve the patient's knowledge of the nature or effects of his disease, or of the factors which have produced or are maintaining it. In a recent study of the work of 4 Edinburgh general practitioners, it was found that at 18% of all consultations these doctors felt that it was necessary to explain the nature or implications of the disease, rather than merely to tell the patient the diagnosis.<sup>18</sup>

As our results have shown, Durban African and Indian patients welcome information about their illness. This, too, applies to patients of other cultures. A study of outpatients at a New York hospital, for example, showed that most of them wanted information about some fundamental aspects of their condition.<sup>19</sup>

The education of patients may present numerous difficulties, which have been discussed elsewhere.<sup>20</sup> The methods of choice may vary considerably. At one extreme, a didactic explanation may suffice. At the other, with a psychoneurotic patient for example, it is preferable to lead the patient more subtly to a self-realization of what his trouble is.

The education of 'bewitched' patients presents particular problems, both in determining the educational goals, and in producing educational changes. Should a patient who is convinced he is bewitched, for example, be persuaded (even if this is possible) to go completely counter to his own convictions? In such a case, what are the possible long-term effects? Would it not be preferable to persuade him to have medical treatment as well as treatment for his bewitchment, except where it is considered that treatment for his bewitchment may have positive dangers? Should the doctor 'go along' with the patient in accepting the possibility of a supernatural causation, or should he agree only that the bewitchment belief itself may be pathogenic? Should he deny the possibility of a supernatural causation, or should he (as in most cases seems preferable) suggest that, if the patient thinks that there is a supernatural element in his illness, he should do whatever he thinks necessary for this, while at the same time persisting with his medical treatment? In view of the usual concomitant emotional disturbance, can explanations alone suffice, or should more emphasis be placed on psychotherapy or situational therapy? There are at present no clear answers to such questions. This subject constitutes an important field for research.

Meanwhile, closing our eyes to the problem of bewitchment will not remove it. Bewitched patients abound, and must be treated. Under these conditions, there is much to be said

for a clear and rational explanation of the illness and its causes, as seen by the doctor, but without necessarily suggesting that this is the only possible explanation for the disorder. Unless the patient's mind is completely closed (in which case he is possibly unlikely to have come to the doctor in the first instance), such an explanation may improve his cooperation in his treatment. The results of the experiment in patient education described above were consistent with, though they did not prove, this possibility.

It is advisable, also, to give consideration to the education of the patient's relatives. Family members may profoundly affect one another's views. As the present findings suggest, the relatives or friends of patients who are sure they have been bewitched, tend to share the patient's views. Even in a hospital, visiting hours may provide an opportunity for such education.

Health workers other than the doctor have an important rôle to play in these tasks. Under present conditions in this country, the nurse often acts as intermediary between doctor and patient, particularly between doctor and African patient. Unless she shares the doctor's views and approach, she may hinder rather than help. Equipped with an adequate training in the importance of cultural factors, and in the techniques of health education, the nurse may be able to augment considerably the doctor's own efforts.<sup>21,22</sup>

In addition, professional health educators, who have adequately demonstrated their ability to produce improvements in living habits,<sup>1</sup> have an important potential rôle to play, both inside and outside hospitals. In an experimental project undertaken in a Durban hospital by the Institute of Family and Community Health, health educators have been able, by holding group discussions with inpatients, to produce appreciable objective improvements both in their knowledge regarding common diseases and their causes, and in their living habits after their discharge.<sup>23</sup>

#### SUMMARY

A study of African and Indian patients' views concerning the nature and causation of their illnesses was undertaken in a Durban hospital in 1960.

A high proportion of patients believed that their diseases might be from supernatural causes, relatively little significance being attached to other specific factors. The patients' views bore little relationship to medical knowledge about the aetiology of their disorders.

## THE OPERATIVE TREATMENT OF TUBERCULOUS GLANDS OF THE NECK

F. J. DUNAI, M.D. (BUDAPEST), *State Hospital, Windhoek*

Since the cause of tuberculosis was first diagnosed, new methods have constantly been evolved, either to fight the disease directly or to diminish the danger of infection. During the last few decades improved methods of diagnosis and the discovery of specific anti-tuberculosis drugs have provided better weapons in the fight against this widespread disease. A further and most important advance is the combination of conservative (medical) and operative treatment. Since so much has been published in this respect, I feel that it is unnecessary to go into any further detail.

In this article I wish to report only on a series of cases

A high proportion of patients stated that they had not been told by a doctor what was, or was suspected to be, wrong with them, and many indicated their dissatisfaction with this situation. Of those who had been given such explanations, most said they believed what they had been told.

Patients with long-term diseases were more likely to suspect a supernatural causation. There was an association between suspicions of a supernatural causation and a feeling that the illness was serious, even among patients with a similar diagnosis.

Patients suspecting a supernatural causation appeared less likely to believe doctors' explanations, and possibly less likely to persist with medical treatment after their discharge from hospital.

The results of a controlled experiment in patient education suggested that, among patients with long-term illnesses, those given explanations concerning the nature of the illness were more likely to comply with requests that they attend for further examinations or treatment after their discharge.

The significance of the findings is discussed, with emphasis on the value of 2 practical measures in patient care: (a) an inquiry into the patient's beliefs, and (b) education of the patient.

We should like to thank Prof. E. B. Adams, Dr. S. Disler, and Dr. R. M. A. Nupen for giving us access to patients and hospital records; Drs. Hilda Kuper and F. B. Proksch for their comments; Medical Recorder S. J. Maharaj for his assistance in tracing records, and our subjects for their cooperation.

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presenting with swelling of the cervical lymph nodes, thought to be of tuberculous origin. It must not be assumed that I regard tuberculosis merely as a local disease; it is well known that very often tuberculous infection of lymph glands occurs secondarily to pulmonary and/or organ tuberculosis following haematogenous spread. However, primary infection of glands with tuberculosis is frequently found; it is mainly of the bovine type (from milk) entering through lacerations of the mucous membrane of the mouth and pharynx.

The following is a report on 228 cases of cervical-gland swellings considered to be tuberculous in nature, all of them

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treated conservatively (medically) for some time, with little or no improvement. These patients were both male and female, aged between 1½ and 55 years.

In 10% of these cases the infection of the submental, submandibular or retro-auricular glands was considered to be primary, located unilaterally as solitary or multiple nodes. All patients whose glands were bigger than a cherry were operated upon. What appears, clinically, to be a rather small superficial tumefaction, often proves to be a much larger gland at operation. It has been found from experience that when an enlarged lymph gland is visible under the skin, surgical treatment is indicated. Examination and final judgment are difficult in cases where glands are embedded deep in or under soft tissues.

In 9.5% the operation was performed because of already existing fistulas or tuberculosis cutis colliquativa. The rest of the patients showed secondary infection of cervical glands from an organ tuberculosis—either in the active or the quiescent stage.

In all cases, before surgery was resorted to, an attempt was made to confirm the diagnosis by X-ray and laboratory examinations. Where these examinations failed to help, the histological analysis of a biopsy specimen definitely aided the diagnosis.

The decision to operate was made only on the basis of careful observation of the development of the disease. In children, especially, 'cure' can apparently be achieved by conservative treatment alone. This is usually a very prolonged procedure and it is questionable whether the cure is complete, i.e. whether repression of the disease does not occur, only to flare up at a later date.

Frequently, patients who could be discharged from hospital as cured, where the pulmonary infection is concerned, have to undergo prolonged treatment—even as inpatients—for delayed healing of the lymph-gland involvement.

It has been observed that, in some cases of primary pulmonary infection with secondary lymph-gland involvement, the two processes heal concurrently as a result of medical treatment with specific anti-tuberculous drugs.

On the other hand, it has been seen that, after healing of the primary pulmonary process, the lymph-node infection appears to persist. The reason for this appears to be that in a caseating gland the normal histology is destroyed, and thus the ability for regeneration is lost. The drug concentration in the gland may be perfectly adequate, yet there is no cure.

Similarly, it is possible that a primary infection in the lymph glands, which is not cured by conservative treatment, can be the cause of secondary spread and infection throughout the whole body.

Frequently the erythrocyte sedimentation rate and differential white-cell count in such cases have returned to normal or near normal, yet the focus in the gland constitutes a real danger. Drugs have to be continued in high concentration to obviate the danger of bacterial resistance and/or a flare-up of the disease.

#### THE OPERATION

After the usual premedication, 97% of all operations were performed under local anaesthesia. The incisions were made along the skin creases of the neck if possible. Where fistulas or tuberculosis cutis colliquativa existed, the incisions were placed in healthy skin areas, always bearing in mind that

sufficient mobilization of the skin had to be secured to close the wound by primary suture.

The lymph glands were enucleated after careful partial blunt dissection, preferably *en bloc*—i.e. including all smaller, visible or palpable glands, since any one gland in a chain, if left behind, might be the origin of a relapse in later years. In an inflamed area, consisting of adhesions and fistulas, the normal anatomy is vastly changed. In the cervical region there are a few most important structures, viz. the subclavian artery, the common, internal and external carotid arteries, the jugular veins, and the accessory and facial nerves. Owing to the presence of these structures, destruction of the usual anatomical landmarks from infection makes operating in this area a potentially dangerous procedure.

During operation haemostasis was secured, preferably by electro-coagulation, and sometimes dissection was performed with the cutting cautery. Frequently, after the effect of adrenaline was lost (as so often happens with local anaesthesia), a capillary ooze started filling the cavities, left by the enucleated glands, with blood. To prevent, or even completely avoid such haemorrhage, absorbable haemostatic gauze was found very helpful. It was found that the subcutaneous haemorrhages (capillary oozing) left indurations in the tissue which marred the cosmetic result postoperatively.

All newly admitted patients received medical treatment with streptomycin and 'neoteben' (Bayer) pre-operatively for at least 14 days—patients in poor general condition were given micro-transfusions in addition.

In cases where there was already a fistula, or where a gland broke down during the operation, 1 G. of streptomycin powder was placed in the wound before closure; otherwise no local streptomycin was used. In cases where the gland infection was believed to be secondary to pulmonary infection (and the latter considered healed) postoperative treatment with neoteben was continued over 12 - 16 weeks; 4 - 6 weeks as an inpatient, the rest on an outpatient basis, provided the patient appeared reliable enough to take the tablets regularly. Naturally, patients are followed-up for several years, if necessary.

In all the operations performed, there were no serious vascular or nervous sequelae, and no deaths, although approximately 10% of the patients arrived in a rather neglected condition.

#### DISCUSSION

In 3.5% there were relapses, but it is difficult to know whether these were true relapses or whether re-infection occurred because small lymph nodes were overlooked at operation.

All the 228 cases were histologically analysed with the following findings: Lymphogranulomatosis 2, syphilis 1, ranula (cyst) 1, uncertain diagnosis 2, and tuberculosis 222.

The literature supports my opinion that, besides conservative treatment, surgical treatment at the right time can protect these patients from a relapse. It is well known that, in a high percentage of cases, even with adequate medical treatment, fistulas or abscesses develop.

Mancorps and Kalkhoff hold the view that 1 in 3 cases of lupus vulgaris are caused by superficial lymph-gland infection, but that 1 in 12 tuberculous gland infections are caused by lupus vulgaris.





*Fig. 1. A. Damara child, aged 18 months, with unilateral tuberculosis cutis colliquativa. The whole area was cicatrized and inflamed, and the demarcation of encapsulated glands lost. At operation, a horizontal incision was made and the diseased tissue was superficially excised as far as mobilization allowed. All the affected tissue under the skin was removed, but not all the superficial tissue (particularly towards the ear) could be removed, since there would have been too much shrinkage.*

*B. Healing by primary intention after 14 days.*



*Fig. 2. A. Adult woman, aged about 45 years, with bilateral cervical glandular swellings, who had been treated for pulmonary tuberculosis, during which time the lymph glands had remained unaffected. B. Three weeks after operation. Wound healed by primary intention. Discharged 6 weeks after operation. General condition improved.*

A comparison between conservative and operative treatment shows that operative treatment saves the patient time and money, fistulas are closed in a far shorter time, and the development of new fistulas can be prevented, thus minimizing the spread of infection.

In the fight against tuberculosis, treatment and prophylaxis are mainly a social problem. Considering how many patients have to wait for admission because beds are occupied by chronic cases, the advantage of a quicker therapeutic method is obvious. Faster recovery, moreover, means that the patient is restored to normal working conditions—with subsequent improvement in economic conditions—far sooner.

Finally, the effect of prolonged treatment (despite the use of modern antibiotics) on every tuberculous patient is to expose him or her to severe mental and psychological strain and even resentment. This could be avoided by active surgical



*Fig. 3. A. Woman, aged 18 years, with bilateral cervical-gland involvement. Altogether, 24 glands were removed. B. Bilateral horizontal incisions performed (that on right shown here). Wounds healed by primary intention after 3 weeks.*



*Fig. 4. A. A child, about 3 years of age, with bilateral cervical lymph-gland swelling. B. Follow-up, 6 weeks later.*

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intervention. In this case the patient is stimulated by the knowledge that something is being undertaken, and, of course, the period of treatment is shortened. The psychological stimulus received in this way is a very real and effective part of the therapy, the importance of which should not be underestimated.

Figs. 1-4 show the results of operative treatment in 4 patients.

#### SUMMARY

The results of surgical treatment of a series of 222 cases of

tuberculous glands of the neck are analysed. The following conclusions are drawn:

1. By combining surgical and conservative treatment, good results were obtained.
2. The period of stay in hospital was much shorter.
3. The psychological effect achieved by active surgical treatment is an important factor in the prolonged treatment of the tuberculous patient.

I wish to thank the Superintendent of the State Hospital, Windhoek, for permission to publish the results of this investigation.

### MEDICAL SERVICES PLAN

REPORT BY THE CHAIRMAN, DR. M. SHAPIRO, TO THE SECOND ANNUAL GENERAL MEETING HELD AT MEDICAL HOUSE, ESSELEN STREET, JOHANNESBURG, ON 26 JULY AT 8 P.M.

I have pleasure in presenting the second Annual Report of Medical Services Plan.

In order to bring the publication of our annual accounts into line with the provisions of the Friendly Society Act of 1956, the accounts have been prepared for the 8-month period from 1 May 1960 to 31 December 1960. All future financial accounts will be for the calendar year, as required by the Act.

The expenditure for the 8 months under review amounted to R60,106, more than double the expenditure for the whole of the first year of operation of the Plan. As will be shown this resulted from the great expansion in the scope of operation of the Plan with a corresponding increase in expenditure for benefits to subscribing members and for costs of administration. A sum of R50,652 was allocated for benefits to subscribing members, i.e. for payment for medical services and hospitalization. Of this amount, the sum of R38,202 had been paid out at 31 December and a further R6,540 had been allocated for payment, but not yet paid out at that date. The balance of R6,000 is represented by a provision for unclaimed benefits as shown in the Balance Sheet. This latter amount is, of course, only an estimate, since it is impossible to determine at any particular time the Plan's liability for services already rendered to subscribers, but for which accounts have not yet been received. However, the sum of R6,000 is regarded as a very liberal and safe estimate of our outstanding liabilities at that date.

Administration expenses for the 8 months amounted to R9,376. Although this sum is considerably in excess of the sum expended in the first year of operation, the ratio of administration expenditure to subscription income was actually reduced from 18.6% in the first year of operation to 13.7% in the period under review. The low administration costs at this very early stage in the growth of the Plan is a tribute to the efficiency and diligence of our staff and encourages us to anticipate that, when the Plan is fully developed, the overheads will not exceed 10% of subscription income. I need hardly stress that in a non-profit-making organization of this nature, the lower the administration expenditure the greater the proportion of subscription income which is available for the provision of benefits and for the creation of adequate reserves for future contingencies.

The subscription income received during the 8-month period amounted to R69,030 as compared with R33,668 for the entire preceding year. A further sum of R458 accrued from interest on investments.

The Balance Sheet shows that the Capital Account as at 31 December 1960 stood at R16,192, which sum represents the balance of R6,800 brought forward from the last Balance Sheet on 30 April 1960, plus the sum of R9,382 which was the excess of Revenue over Expenditure for the 8 months under review. In addition, the Plan holds in trust for the participating doctors the sum of R14,540, which represents the loans of R20 each deposited by the 720 participating members who had joined the Plan up to that time. This loan fund has so far not been required either to finance the development of the Plan or to meet any of its commitments. It has nevertheless been decided by the Board that the loans be not repaid until the financial reserves are considered to be

such as to make it entirely safe to abolish the Fund. New doctors joining the Plan will therefore continue to be required to provide these loans as a condition of their participating membership.

As at the date of the close of the Balance Sheet the cash resources at the bank, in savings accounts and in fixed deposits, amounted to R42,328.

The growth of subscriber population and of subscription income is shown in the following Table. In order that participating members may be brought up to date with the latest position, the figures as at 30 June 1961 have also been included:

	30 April 1960	30 June 1960	31 Dec. 1960	30 June 1961
Number of groups admitted . . . .	33	44	61	89
Number of subscribers . . . .	887	1,309	1,733	3,105
Number of persons covered . . . . .	2,417	3,499	4,852	8,605
Monthly subscrip- tion income . . . .	R2,416	R8,154	R10,400	R18,882

New applications effective as from 1 August 1961 are expected to bring the total number of groups admitted to 119, the number of persons covered to 11,654, and the monthly subscription income to R25,494. Some of the groups which have been admitted to the Plan comprise subscribers who have not previously carried any sickness insurance. However, more than half of the groups admitted consist of subscribers who were previously insured with commercial insurance companies.

The rapid growth of and widespread public and professional interest in the Plan indicates that there is a great need for the comprehensive type of insurance cover against the cost of medical services and hospitalization such as the Plan provides.

At present, the area of operation of the Plan includes only the areas embraced by the Southern Transvaal and Eastern Transvaal Branches of the Medical Association of South Africa. Requests for extension of the Plan have been received from many of the larger towns and cities in the Republic. The Medical Association itself has, through its Federal Council, recently reiterated for the third time its desire that the Plan be extended throughout the country as soon as possible. These requests have received the most earnest and sympathetic consideration of the Board. However, it is my duty to report that in this matter the attitude of the Board remains the same as it was a year ago, viz. that the Plan be not extended beyond its present area of operation until the policies of the Association in relation to commercial insurance companies and to the Plan itself are clarified to the satisfaction of the Board. Let the attitude of the Board in this matter be misconstrued, I should like briefly to review the considerations which have led the Board to this decision.

Participating members may recall that when the Plan was launched the official policy of the Association was against the granting of any form of recognition or of concessions to commercial insurance companies. Indeed, the main reason for the

creation of the Plan and of its sponsorship by the Association was that, through the comprehensive nature of the benefits which it was to offer to subscribers and the scales of professional fees which it would pay to participating doctors, the Plan would establish satisfactory standards against which the benefits provided by medical aid and insurance schemes could be measured and which such schemes would be encouraged to emulate. However, since the time of the launching of the Plan, the Association's policy has undergone a radical change. Commercial insurance companies have been officially recognized by the Association as qualifying for the preferential tariff of fees applicable to approved medical aid societies in respect of all persons insured with these companies whose declared earnings fall below R4,600 per annum, regardless of marital status or family size. The Board of Medical Services Plan, which was not consulted by the Association in this matter, is not prepared to recommend to its participating members that these conditions should be applied also to the Plan, since this would constitute a negation of the basis upon which participating members were invited to join the Plan. As a consequence of the Association's present policy in relation to commercial insurance companies, the Plan now finds itself handicapped in the pursuit of the very objects for which it was conceived and sponsored by the Association itself. Until a formula is evolved which will satisfactorily resolve this paradoxical situation, it would be folly on the part of the Plan to court unequal competition in areas other than those in which it is already irrevocably committed. The fact that within the pilot area the Plan is prospering and is operating to the benefit and satisfaction of both the subscribers and the participating doctors does not detract from the importance of the issues and principles involved. It is possible that, as a result of decisions taken at a special meeting of the Federal Council a few weeks ago, the policies of the Association may

be so modified as to encourage the Board of the Plan to contemplate extension of its area of operation with a greater degree of confidence than hitherto. The results of these deliberations will therefore be awaited with interest. It appears that our colleagues in several other areas have been so impressed by the example of the Plan that they are impatiently determined to establish, independently, schemes similar to Medical Services Plan, notwithstanding the considerations which I have mentioned. While counselling circumspection we extend to them our very best wishes and the offer of whatever technical assistance and advice we are able to give.

Late last year, the post of Medical Assessor was created and the Board was fortunate in securing the services of Dr. J. A. Bell, a highly esteemed senior colleague with experience both as general practitioner and specialist physician. His appointment has not only enhanced the liaison between the Plan and the participating members, but has relieved the members of the Board of the great burden of scrutinizing applications for membership and accounts for services rendered and greatly improved the speed and efficiency with which these functions were previously performed.

In conclusion, I should like to convey the thanks of the Board to our business manager, Mr. Parvus, and to the members of his staff, for the splendid way in which they have coped with the work of the Plan under very difficult conditions. I am happy to report that more commodious and congenial accommodation for our staff was obtained early this year at Thames House in Hospital Hill. This accommodation is on lease to the Plan for only 18 months, but it is hoped that some more permanent arrangement will have been arrived at before the expiration of the lease.

I now have pleasure in moving the adoption of this Report and the financial accounts.

### TRAINING IN PSYCHIATRY AT MCGILL UNIVERSITY

The Department of Psychiatry, McGill University, Montreal, has a limited number of openings for training, and applications are now being considered for 1 July 1962.

Applicants must have graduated from an approved medical school and have had a general internship of one year.

The four-year diploma course provides general basic preparation during the first two years. The last two years provide special patterns of instruction for those:

- (a) planning to enter the field of general hospital, community, or university psychiatry;
- (b) preparing themselves for a career in child psychiatry; and
- (c) intending to enter the field of research psychiatry.

Credit may be allowed for previous training.

Shorter periods of instruction may be arranged, as well as instruction in special fields.

Training in psychoanalysis also may be undertaken within

the Department of Psychiatry by suitably prepared candidates. Separate application for this training is required.

The Department of Psychiatry of McGill University is granted full recognition in respect of the two years' experience required by the regulations for admission to the Diploma in Psychological Medicine, in England.

All those accepted for training are assigned to one of the eight teaching centres in Montreal. These positions carry with them board and lodging, or, in lieu of lodging, a living-out allowance, together with an honorarium ranging from \$175 to \$300 per month, depending upon the clinical position to which the applicant is assigned. For those in the advanced years of the course, clinical positions carrying higher salaries are often available. In several centres, additional emoluments of \$2,400 a year are available, mainly in the form of bursaries, these being issued subject to certain conditions, information of which will be given on request.

Applications should be sent, by December, to: Chairman, Department of Psychiatry, McGill University, Montreal, Canada.

### IN DIE VERBYGAAN : PASSING EVENTS

Dr. M. H. Luntz, ophthalmologist, of Cape Town, has left for England to lecture in ophthalmology at Oxford University and the Oxford Eye Hospital for a year. He will be accompanied by his wife and family and expects to return to Cape Town towards the end of next year.

University of Cape Town and Association of Surgeons of South Africa (M.A.S.A.), Joint Lectures. The next lecture in this series will be held on Wednesday 23 August at 5.30 p.m. in the E-floor Lecture Theatre, Groote Schuur Hospital, Observatory, Cape. Dr. I. N. Marks will speak on 'Augmented histamine tests and their application'.

The South African Institute for Medical Research, Johannesburg, Staff Scientific Meeting. The next meeting will be held on Monday 28 August at 5.10 p.m. in the Institute Lecture Theatre. Dr. M. Shnier will speak on 'Neonatal pulmonary distress syndrome'.

Dr. A. M. Lamont, previously Physician Superintendent of Weskoppies Hospital, Pretoria, has been appointed Commissioner for Mental Hygiene. He succeeds Dr. Ben Pienaar.

Dr. A. M. Lamont, voorheen Geneesheer-Bestuurder van Weskoppies-hospitaal, Pretoria, is aangestel as Kommissaris van Geesteshigiene in die plek van dr. Ben Pienaar wat hierdie betrekking beklee het.

Any Member of the services is unable to may make interview M Cape Town

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Any Member attending Congress who wishes to make use of the services of the Agency Department of the Association and is unable to do so during office hours (8.30 a.m. to 4.30 p.m.), may make an appointment through the Congress Office to interview Mrs. S. E. du Toit at Medical House, 35 Wale Street, Cape Town, at a time convenient to themselves.

*Enige Lid van die Vereniging wat die Kongres bywoon en van die Agentskapafdeling van die Vereniging se dienste gebruik wil maak en nie die geleentheid daartoe gedurende kantoorure (8.30 vm. tot 4.30 nm.) het nie, kan deur die Kongreskantoor reël om mev. S. E. du Toit ná ure te spreek by Mediese Huis, Waalstraat 35, Kaapstad.*

Mr. Joseph Lannon, specialist surgeon, of Johannesburg, wishes to advise his colleagues that his telephone number was printed incorrectly in the latest telephone directory. It remains 423429.

*International Congress of Neurology.* An informal invitation has been extended by the President of the Association of British Neurologists, Sir Russell Brain, to those South African neurologists proceeding to the Rome Congress, to attend the autumn meeting of the A.B.N. in London on 1 and 2 September 1961. Will those who intend accepting the invitation please communicate directly with Sir Russell Brain, whose address is 86 Harley Street, London, W.1.

Dr. J. Graham Scott has been invited by the World Health Organization to attend a session of the Expert Committee on Trachoma in Geneva in September 1961.

While overseas, Dr. Scott will also attend a meeting of the Jules Gonin Club to discuss modern methods of treating detachment of the retina, and will return early in October.

## NUWE PREPARATE EN TOESTELLE : NEW PREPARATIONS AND APPLIANCES

### PENBRITIN

Petersen Limited, the sole agents for Beecham Research Laboratories Ltd., in the Republic of South Africa, South-West Africa, the British Protectorates, and the Central African Federation, have received a small initial quantity of Penbritin (BRL 1341).

At present the amount of this compound, which is available in Johannesburg, is insufficient for general distribution even to hospitals. Until the position improves, this material will be issued only for the treatment of urgent cases.

Trade announcements will be made in due course.

Enquiries should be addressed to: Petersen Limited, P.O. Box 5785, Johannesburg.

### SURGICEL — AN ABSORBABLE HAEMOSTAT

Ethical Products (Pty.) Ltd., [Ethical Division of Johnson & Johnson (Pty.) Ltd.] announce the introduction of Surgicel — a new absorbable haemostat, and supply the following information:

Surgicel is prepared from a special type of oxidized regenerated cellulose derived from alpha-cellulose. The combination of regeneration and oxidation of this chemically pure cellulose gives Surgicel its unique properties of being highly haemostatic, and readily absorbable when implanted in human or animal tissue.

Surgicel absorbable haemostat offers the following distinct clinical advantages:

It is chemically and biologically uniform, inherently and

dependably haemostatic; uniformly and completely absorbed with a minimum of tissue reaction; effective in various blood dyscrasias including haemophilia; easy to handle and readily adaptable to most surgical situations. Surgicel does not fragment and conforms readily to irregular visceral contours, or, if necessary, may easily be sutured in place. It readily adheres to oozing surfaces, but shows little tendency to stick to gloves or instruments.

*Special considerations.* In using Surgicel the following precautions should be observed: (1) Surgicel absorbable haemostat is not meant as a substitute for the proper use of sutures and ligatures and should only be used in cases of haemorrhage not controllable by conventional means, (2) The haemostatic effect of this material is greater when firmly applied and in the dry state. Moistening with water or saline is therefore not recommended. (3) It is neither necessary nor desirable to impregnate with thrombin or other haemostatic agents, or with penicillin or other anti-infective agents. (4) The product is supplied sterile and should not be autoclaved. (5) When properly used, oxidized regenerated cellulose may be closed in a clean wound without drainage. In contaminated wounds closure without adequate drainage should be avoided. (6) Surgicel absorbable haemostat should not be left *in situ* when used to control bleeding in fractures because of the theoretical possibility of interference with bone regeneration and the chance of cyst formation.

*Presentation.* Surgicel is available in the following sizes: Knitted fabric strips 2" x 14", 4" x 8" and 2" x 3".

Further information may be obtained from Ethical Products (Pty.) Ltd., P.O. Box 727, East London.

## BOEKBESPREKINGS : BOOK REVIEWS

### OBSTETRIE

*Atlas of Obstetric Technique.* By J. Robert Willson, M.D. M.S. Pp. 304. Illustrated. \$14.50. Missouri: The C. V. Mosby Co. Also obtainable from local booksellers. 1961.

J. Robert Willson is die professor van verloskunde en ginekologie aan die Temple-universiteit se geneeskundige skool te Philadelphia.

Hierdie atlas van hom beskryf puntsgewys die obstetriese manipulasies wat hy gebruik, en elke stap word geïllustreer deur besonder volledige en duidelike tekeninge. Die volgende prosedures word beskryf:

Normale baring, vertraagde skouers, die derde stadium, induksie van kraam, kraambeserings, tangverlossings (beide Neville Barnes en Kielland), aangesigligging, voorhoofligging, stuitligging, dwarsligging, keisersnee, plasenta previa, en kraniotomie. Die verhandeling oor tangverlossing en stuitligging is besonder goed en breedvoerig.

'n Indeks van moderne verloskunde is die feit dat die skrywer met opset nie dekapitasie beskryf nie, maar ek is tog verbaas dat hy ook simfisiotomie uitgelaat het.

Hierdie boek kan met vertroue aanbeveel word vir diegene wat die verloskunde beoefen.

J.N. de V.

### ORTHOPAEDIC SURGERY

*Atlas of Anatomy and Surgical Approaches in Orthopaedic Surgery.* Vol. II. (Lower Extremity). By Rudolph Cosentino, M.D. Pp. vii + 263. Illustrated. R11.20. Oxford: Blackwell Scientific Publications. 1961.

This is quite a remarkable atlas of surgical anatomy. Dr. Cosentino is an orthopaedic surgeon who has painstakingly and beautifully dissected the lower limb so as to illustrate the organization of areas exposed by the surgeon. The artistry of the prosector is given full credit by the outstanding photographic techniques which have resulted in a series of plates of great value to the anatomist and surgeon.

There are a few minor criticisms. It is a pity that the detailed legends of Figs. 1 and 2 are not placed facing these plates because cross-reference is awkward. In Figs. 9 and 10, 'Internal Pudendal N.' should read 'Pudendal N.' There is also a slight inconsistency in the utilization of capitals for anatomical names, e.g., on page 14, 'Obturator nerve' and 'obturator artery' appear in the same sentence.

The publishers are to be congratulated on the fine production of this volume. It is highly recommended to both surgeons and anatomists.

R.S.



## OPHTHALMOLOGY

*A Synopsis of Ophthalmology*. 2nd edition, by J. L. C. Martin-Doyle, M.R.C.S., L.R.C.P., D.O. Pp. 249. R2.75. Bristol: John Wright and Sons Ltd. 1961.

The publication of a second edition of this text-book is a welcome event. It stresses the demand for this booklet which fills a gap for medical undergraduates and graduates from schools where the facilities for teaching ophthalmology are not as good as they might be.

Most of the book is devoted to a systematic treatment of its subject matter. There then follows a chapter on the use of antibiotic drugs, another on the use of corticosteroids and a third on allergy in ophthalmology. The best section is that on squint which is up to date and accurate. The chapter on 'ocular signs in general disease' is also well presented.

Many of the sections in this edition have been rewritten e.g. glaucoma, whilst some are new, e.g. antibiotics and corticosteroids in ophthalmology. In spite of this there are some unfortunate omissions that considerably detract from the value of this work. Thus, the importance of a family history is not mentioned in the relevant chapter. There is no mention of the value of corneal grafting in superficial dystrophies; instead the outmoded and mutilating procedure of optical iridectomy is recommended.

No note is made of ankylosing spondylitis as the major cause of non-granulomatous iritis, and not to record the use of 'diamox' in the treatment of secondary glaucoma is a serious omission. Instead another mutilating procedure, posterior sclerotomy, is advised. In a new edition the continued use of confusing labels in the chapter on retinopathies, e.g. 'Renal retinopathy' is deplorable. One would prefer to see the progressive nature of the retinal vascular changes stressed, starting with arteriosclerosis and progressing to benign hypertension and sometimes into a 'malignant' phase. Then too, the basic feature of diabetic retinopathy, which is new-vessel formation, is not even mentioned.

## BRIEWERUBRIEK : CORRESPONDENCE

## DIFFERENTIAL SALARY SCALE

*To the Editor:* In the *Journal* for 22 July on advertisement page xxvi there is an advertisement inviting applications for the post of Junior Resident Medical Officer at the New Somerset Hospital.

In the text of the advertisement a differential salary scale is advertised in which non-European medical practitioners are paid at a rate substantially lower than European medical practitioners with an equivalent degree of qualification. I feel certain that there is a large body of medical opinion in South Africa and overseas that feels that this form of racial discrimination is completely indefensible, and should like to know that the Medical Association was doing all in its power to rectify this iniquitous state of affairs.

E. B. Dowdle

University of Cape Town  
3 August 1961

[The Medical Association has already been active in this matter, and made representations to the coordinating Council on Health Services when this matter first came to the attention of the Association. Joint representations by the Medical Association and the South African Medical and Dental Council have since been made to the Minister of Health. The matter is on the agenda for the forthcoming meeting of the Federal Council and will again be discussed—Editor.]

## DIFFERENTIAL SALARY SCALE

*To the Editor:* It has recently come to my notice that the salaries of the non-White interns at the Somerset Hospital are considerably lower than those of the Whites. An advertisement in the *Journal* of 22 July confirms this. I understand that this discrimination has crept in in the last two or three years. Formerly there was no difference in the salaries.

In the *Journal* of 15 April, in an Editorial on 'The Com-

I have pointed out some of the shortcomings and could add many more. Nevertheless, within its limits this is a most useful book for those that require a 'bird's eye view' of ophthalmology. Undergraduate students and general practitioners would be well advised to keep a copy of this book in their library.

M.H.L.

## BIOLOGICAL PSYCHIATRY

*Recent Advances in Biological Psychiatry*. Including a Havelock Ellis Centenary Symposium on Sexual Behaviour. Edited by Joseph Wortis, M.D. Pp. xiii+417. Illustrated. \$13.50. New York and London: Grune & Stratton. 1960.

This volume in its 29 contributions, high in the scales of experimental approach and critical evaluation alike, testifies to the vitality and progress of the biological approach to psychiatry.

The major subdivision of topics is as follows: Academic Lecture, 1959; Part I: Neuroanatomy and neurophysiology; Part II: Symposium—conditioning of the electroencephalograph in animals and man; Part III: Havelock Ellis centenary symposium 1859-1959—the analysis of the sex impulse; Part IV: Psychopharmacologic research; and Appendix: Remarks at the Fourteenth annual Banquet of biological psychiatry.

At the risk of being invidious I am compelled by space allocation to direct attention to 5 items only of this sumptuous feast. First, item 6 (page 70) brings us up to date on the significance of GABA in the brain. Second, the whole of Part II contributes experimental detail to the revolutionary vista opened up by conditioning of the EEG. Third, in 'Components of eroticism in man: cognitive rehearsals' (item 16, page 210), John Money adduces evidence from paraplegics and other clinical material as to the components of eroticism at an experimental *a posteriori* level. Fourth, the round-table discussion on toxic theories of schizophrenia (item 21, page 280), provides a comprehensive picture of the field, as well as the latest advances in the Taraxen problem. Finally (item 27, page 371), there is a round-table discussion focussing attention on the crucial matter of methodological problems in neuropharmacological research.

L.A.H.

monwealth of medicine', the following passage occurs: '...the fact that we are doctors and that, as we are true to our calling, we recognize no barriers of race, colour, creed, or sex in our dealings with our patients or our colleagues (the italics are mine) in the practice of medicine'.<sup>1</sup>

Are we justified in making this claim in the light of this inequality in salary on the basis of race? I should like to know the attitude of the Medical Association on this matter.<sup>2</sup>

Ethel Barrow

Sunnybrae Road  
Rondebosch, Cape  
8 August 1961

1. Editorial (1961): S. Afr. Med. J., 35, 305.

\* See footnote to letter from Dr. Dowdle—Editor.

## PERSONAL ACCIDENT AND SICKNESS INSURANCE

*To the Editor:* It has come to our notice that details of a personal accident and sickness insurance policy offered by S.O. Goodwin & Company, special representatives of the London & Provincial Marine & General Insurance Company Limited, recently sent out by the Medical Insurance Agency of the Medical Association of South Africa, made specific reference to the benefits offered by this Society.

This reference has been made without the knowledge of the Society, which has no connection or arrangement whatsoever with either S. O. Goodwin & Company or the London & Provincial Marine & General Insurance Company, Limited.

I should be grateful if you would publish this letter for the information of your members.

W. H. C. Kohler  
Manager

Professional Provident Society of S.A.  
903 Medical Arts Building  
Jeppe Street  
Johannesburg  
2 August 1961

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